



## Chapter 2 Inventory of Existing Conditions

THE  
LPA  
GROUP   
AVIATION CONSULTANTS





## CHAPTER TWO

# Inventory of Existing Conditions

The Federal Aviation Administration (FAA) establishes planning and design criteria for airports and air transportation through Advisory Circulars (ACs) and Orders, which represent accepted standards of the United States Government. For example, **FAA AC 150/5070-6B, *Airport Master Plans***, defines the procedures for developing studies such as this Airport Master Plan Update (AMPU) for the St. Lucie County International Airport (FAA three-letter identifier **FPR**).

The master planning process requires the gathering of information related to existing (2008/2009) airport conditions at the time of the report preparation. This information serves as the basis for future steps in the planning process. As such, information related to FPR, including existing and contiguous land use and airspace was collected from multiple sources in an effort to identify future aviation needs. Data collected during this phase provides an inventory of the following:

- ➔ Existing physical facilities: runways, taxiways, parking aprons, navigational aids, airport terminal, and facility areas for general aviation, corporate, air cargo, and aviation support.
- ➔ The airport's role in the overall community: development history, location, and access relationship to other transportation modes.
- ➔ Existing community, airport, and regional plans and studies that contain information that may relate to the development and eventual implementation of the recommendations of the Master Plan. This information is particularly relevant to future commercial and/or industrial/business development on or adjacent to FPR.

An inventory addressing these and other issues required data from a variety of sources in order to obtain an accurate depiction of FPR and its surrounding community, including:

- ➔ Interviews with FPR management and staff
- ➔ Interviews with FPR users and tenants
- ➔ Correspondence with local, state, and federal agencies
- ➔ Research and review of previous airport planning analyses and studies
- ➔ Review of aerial photography, mapping, and airport and terminal plans
- ➔ Review of facility directories, approach plates, sectional charts, etc.



- ➔ Reference materials gathered from the FAA ACs and Orders, and from other applicable FAA and Florida Department of Transportation (FDOT) regulations
- ➔ Review of airport and FAA statistical reports

It was important to review previous planning documents completed for the airport to understand and incorporate past planning efforts. The following planning documents were obtained from the airport and other agencies during the inventory process:

- ➔ 2002 Airport Master Plan Update, Hoyle, Tanner & Associates, Inc.
- ➔ 2005 Part 150 Noise Compatibility Study Update, MEA Group, Inc., Harris Miller Miller & Hanson, Inc.
- ➔ General Aviation Minimum Standards – St. Lucie County Code of Ordinances [enacted September 16, 2008], Chapter 1-2.3, Article IV, December 4, 2007
- ➔ 2008-2025 Aerospace Forecasts, Federal Aviation Administration (FAA)
- ➔ 2007 and 2008 Terminal Area Forecast (TAF), FAA
- ➔ 2009-2013 National Plan of Integrated Airport Systems, FAA
- ➔ 2007 Continuing Florida Aviation System Planning Process (CFASPP), Florida Department of Transportation (FDOT)
- ➔ 2008 St. Lucie Evaluation and Appraisal Report, and
- ➔ St. Lucie County Comprehensive Plan

## 2.1 Airport Characteristics

### 2.1.1 Overview

Commonly referred to as “The Gateway to the Bahamas”, FPR is a busy public-use airport located on the southeast coast of Florida, within the four-county region known as the Treasure Coast, which includes St. Lucie, Indian River, Martin, and Okeechobee Counties. With approximately 268,691 citizens in 2008,<sup>1</sup> St. Lucie County was the most populated county along the Treasure Coast. The vast 3,844 acre airport property is owned by the St. Lucie County Board of County Commissioners (BOCC), and is managed by the Airport Division located within the County’s Planning & Development Services Department. The airport division includes a staff of four, full-time employees and two part-time employees. Because of the availability of developable airport property, a strong potential for both aviation and non-aviation related growth exists at FPR. For these reasons, this *Inventory of Existing Conditions* chapter presents a comprehensive overview of all facets of the airport property, surrounding community, and recent trends within southeast Florida.

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<sup>1</sup> Woods & Poole Economics, 2008 State Profile – Florida.



### 2.1.2 Location

FPR is located within the unincorporated lands of St. Lucie County, approximately three miles northwest of the City of Fort Pierce, and a short drive from the Cities of Port St. Lucie (twenty minutes) and West Palm Beach (one hour) on the southeast coast of Florida as illustrated in **Figure 2-1**. The New York Mets Spring Training, PGA Village Golf Club, and pristine beaches are among the popular attractions in the area. As depicted in **Figure 2-2**, the 3,844 acre airport property is bordered by Indrio Road/Florida State Road 614 to the north, United States Route 1 (U.S. 1) to the east, St. Lucie Boulevard to the south, and North Kings Highway/Florida State Road 713 to the west. The close proximity to major highways, including U.S. 1 and Interstate 95 which both run along the entire east coast of the United States, as well as Florida's Turnpike which runs throughout much of south and central Florida, makes FPR a highly-accessible airport along the same corridor as popular destinations to the south (e.g., West Palm Beach, Fort Lauderdale, Miami, and the Florida Keys). The Airport Administration Building is accessible by turning north off St. Lucie Boulevard onto Curtis King Boulevard, the main entrance road to the airport and facilities on the south side of the property.

Other portions of the airport property may be accessed as follows:

- ➔ Access to facilities along Jet Center Terrace, as well as other facilities on the east side of the airport property, is provided from Industrial 33<sup>rd</sup> Street (located north of St. Lucie Boulevard). Access to the east side of the airport property may also be provided from Industrial Avenues 1, 2, or 3, all of which are located west of North Martin Luther King Street (North 25<sup>th</sup> Street).
- ➔ Access to the facilities along Airman's Drive on the west side of the airport property is provided from Hammond Road (located north of St. Lucie Boulevard).
- ➔ Access to the new training runway (10L/28R) and associated facilities will be provided by a new service road off Taylor Dairy Road (located north of St. Lucie Boulevard).

According to the *St. Lucie County Annual Capital Improvements Element Update*, dated November 26, 2008, several improvement projects are scheduled for county, state, and federal roadways within the vicinity of FPR during the five-year period 2009-2013, including improvements to Kings Highway, Indrio Road, and St. Lucie Boulevard. Further, the *St. Lucie County Comprehensive Plan*, revised January 6, 2004, indicates that the widening of both Kings Highway and Indrio Road from two lanes to four<sup>2</sup> lanes will ultimately be necessary to accommodate anticipated service levels by 2025. As such, the county has taken proactive steps for enhancing access to FPR and accommodating future growth in the area.

<sup>2</sup> According to Table 2-8 of the 2025 St. Lucie/County Transportation Plan, St. Lucie County Comprehensive Plan, Transportation Plan– March 5, 2002 and Revised January 2004





**LOCATION OF AIRPORT  
FT PIERCE, FL**

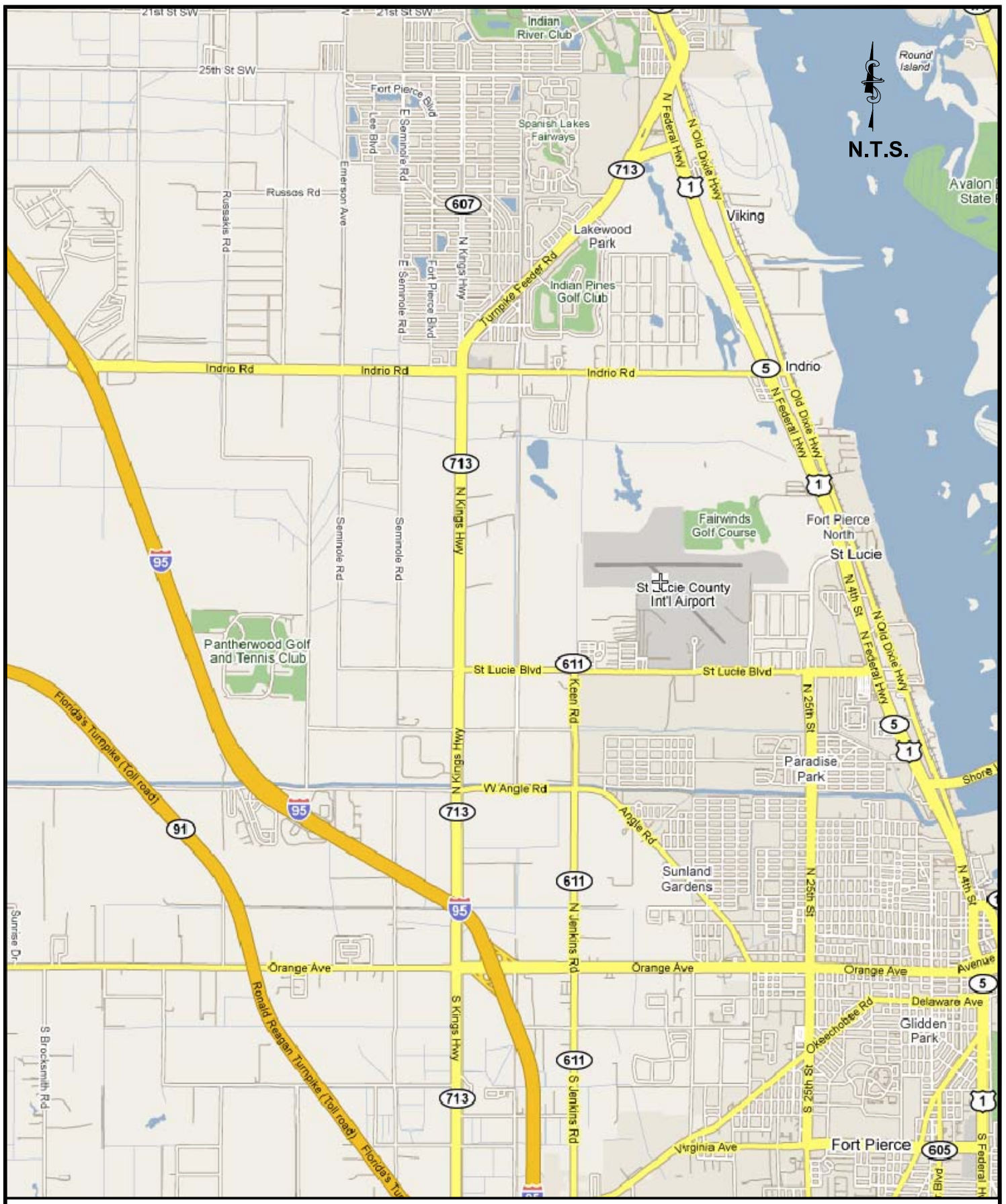


**St. Lucie County -  
International Airport  
Master Plan Update**

**AIRPORT  
LOCATION MAP**

DATE  
12/09/2008

**2-1**  
FIGURE NO.



## St. Lucie County - International Airport Master Plan Update

## Surface Transportation Map

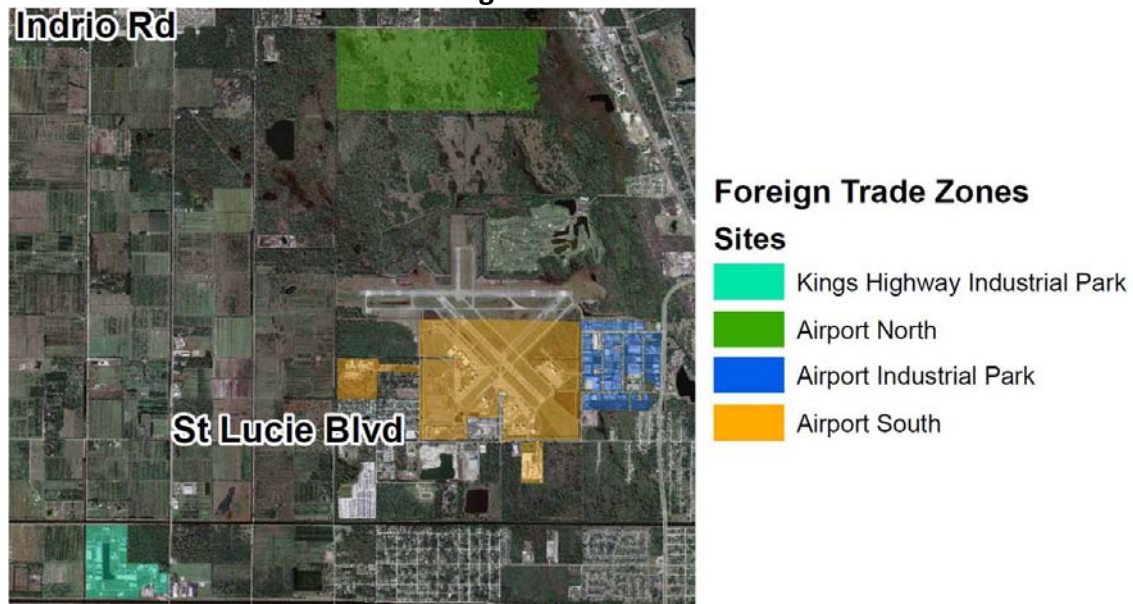
DATE  
12/09/2008

**2-2**  
FIGURE NO.

Within St. Lucie County, much of the airport property and surrounding area is designated as a Foreign Trade Zone (FTZ), including the following existing and future development sites shown in **Figure 2-3**: Airport South, Airport North, Airport Industrial Park, and Kings Highway Industrial Park.

According to the County's Economic and Strategic Development Department,<sup>3</sup> a FTZ consists of publicly-operated, secured industrial parks or specialized warehouse sites, which are located close to a Port of Entry and considered to be outside of U.S. Customs Territory. Exemption from taxes and reduced insurance costs are among the benefits of an FTZ. FPR's existing facilities including an onsite U.S. Customs and Border Protection (CBP) facility and Air Traffic Control Tower (ATCT) further contribute to the appeal for FTZ development.

**Figure 2-3**  
**Foreign Trade Zone Sites**



Source: St. Lucie County Economic & Strategic Development Department.

### 2.1.3 Airport Property

The current 3,844 acres of airport property consists of a combination of aviation-related and industrial/commercial development as well as large tracts of undeveloped property. As shown in Figure 2-3, a significant portion of undeveloped property surrounds the Airport North FTZ. However, it is important to note that the entire airport property will be evaluated based upon highest and best use criteria also considering environmental and storm

<sup>3</sup> [http://stlucieco.gov/ed/foreign\\_trade.htm](http://stlucieco.gov/ed/foreign_trade.htm)





water requirements. Surrounding land uses include industrial, commercial, public, and residential (e.g., St. Lucie Village east of U.S. 1).

Because of ongoing noise exposure concerns for nearby residential areas, a Federal Aviation Regulations (FAR) Part 150 Noise Study Update was completed in 2005 (approved in 2006) which recommended measures to reduce noise levels, as described later in this chapter. Within this AMPU study, long-term development opportunities for the entire airport property were considered, and a strategic on-airport land use planning component identifying a mix of aviation, industrial/commercial, recreational, and preservation/mitigation functions is presented as part of the Airport Layout Plan (ALP) component. An inventory of the natural features associated with the airport property and surrounding community is presented at the end of this chapter.

In summary, FPR's location close to major highways and popular destinations in southeast Florida support a high potential for aviation and non-aviation growth within the region. While numerous opportunities to develop the airport's vast property may be available, it is important to appropriately blend future development with sensitive land uses, storm water and other environmental features.

#### **2.1.4 Background/History of Airport**

On November 15, 2008 (Airport Day), County Commissioner Chris Dzadovsky dedicated a "History Wall," located inside the Airport Administration Building, commemorating FPR's 78-year history beginning in 1930 (see **Figure 2-4**).

**Figure 2-4**  
**History Wall Dedication**



*Source: The LPA Group Incorporated, November 15, 2008.*

The “History Wall” project was an effort of airport employees and volunteers that provides an illustrative history of the airport through photographs, aerial development progression, letters, and newspaper articles citing important events leading-up to existing 2008 conditions. The History Wall is sponsored by the St. Lucie County International Airport, the St. Lucie County Historical Museum and the St. Lucie County Cultural Affairs Council.

- ➔ 1921 – Commercial Club of Fort Pierce builds an airport at current site of American Legion Building on U.S. 1
- ➔ 1930 – Current airport land purchased
- ➔ 1935 – Airport dedication for Fort Pierce Airport
- ➔ 1941 – County leases the airport to US Navy for aircraft carrier training during WWII
- ➔ 1962 – Airport terminal constructed (current Airport Administration Building)
- ➔ 1967 – Curtis King becomes the first full-time Director of the airport
- ➔ 1974 – Approved by U.S. Bureau of Customs to become a Landing Rights Airport; Airport Coffee Shop opens – later becomes Airport Tiki Restaurant
- ➔ 1985 – Air Traffic Control Tower (ATCT) constructed; name changed to St. Lucie County International Airport
- ➔ 1998 – Curtis King, former Airport Director, retires after 31 years
- ➔ 1998 – Airport develops airport entrance road, named Curtis King Boulevard



- ➔ 2000 - B & E Houck begins construction of new flight training facilities to house Pan Am Internationals Flight Training Division, including offices, classrooms, maintenance and dormitory facilities. This campus is currently occupied by Aviator Aeronautical College.
- ➔ 2001 - Airport develops 1,000 SF office building, 1,600 SF manufacturing building, and 3000 SF maintenance building.
- ➔ 2005 – Diana Lewis, current Airport Director, is hired
- ➔ 2006 – Design and Construction begins on new training runway (10L/28R), parallel taxiway, and Airport West Commerce Park developed

Although this is not an exhaustive listing of the airport's history, it does include various events which are important to the FPR's development and continued existence. Common to many airports, FPR grew from a small one-strip facility to a six runway configuration as a result of military airport development during World War II. The county realized the potential for the airport, and demand for aviation facilities drove development, including airport lighting, navigational aids, hangars, terminal, etc., throughout Mr. Curtis' tenure as Airport Director. It is anticipated that continued demand now and in the future drives the airport's development, and its aeronautical role within both the state and national aviation system.

### **2.1.5 Airport's Aeronautical Role**

As indicated earlier, FPR is owned by the St. Lucie County BOCC, managed by the Airport Department, and is the only public-use airport in St. Lucie County. The other airports in the county are mostly single runway facilities serving private residential airpark communities or individual businesses (such as Treasure Coast Airpark, Williams Hogwild Airport, Southern Fruit Groves Airport, etc.). While these private airports play an important aeronautical role in the region, by serving unique aviation needs, when compared to FPR, they experience much less activity and do not have the same potential to attract businesses to the county through FTZ incentives and development-ready sites. Further, none of these private airports are eligible to receive federal aid for improvements. Consequently, FPR has been designated as an important airport asset within the county, state, and national aeronautical system.

#### **National Plan of Integrated Airport Systems (NPIAS)**

St. Lucie County International Airport is included within the National Plan of Integrated Airport System (NPIAS), which is published by the U.S. Department of Transportation. According to the FAA report, *National Plan of Integrated Airport System (2009-2013)*, there are 3,356 existing and 55 proposed public-use airports that are significant to the national air transportation, and are, therefore, eligible to receive grants under the FAA Airport Improvement Program (AIP). Based upon FAA forecast demand, required maintenance, and projects recommended in the *2002 AMPU* and the *2005 Noise Study*, approximately \$23.2



million<sup>4</sup> of the \$49.7 billion FAA AIP budget over the five year timeframe (2009-2013) has been estimated for FPR development. Thus, FPR has been designated as an important facility within the nation's airport system, necessary to support corporate and general aviation traffic within the State of Florida.

Within the NPIAS, the role for each airport is identified as one of four basic service levels (Primary, Commercial Service, Reliever, and General Aviation). These levels describe the type of service the airport is expected to provide the community during the five-year planning period of the NPIAS. It also represents the funding categories set up by Congress to assist in airport development. As shown in **Table 2-1**, airports are designated within the NPIAS by the number of enplanements, operations, and based aircraft. FPR is currently designated as a General Aviation (GA) airport in the NPIAS, serving a variety of different users including corporate flight operators, air charter businesses, flight training organizations, recreational flyers, etc. Although still designated by the NPIAS as a GA airport by year 2013, the potential exists, which will be explored in later chapters of this study that the airport's service level may ultimately change to commercial service – non-primary as a result of commercial traffic “leakage” or “overflow” from West Palm Beach or Ft. Lauderdale International Airports.

TABLE 2-1 FAA NPIAS SERVICE LEVELS	
NPIAS Service Level	Criteria
Commercial Service – Primary	Public use commercial airports enplaning more than 10,000 passengers annually
Commercial Service – Non-primary	Public use commercial airports enplaning between 2,500 and 10,000 passengers annually
General Aviation (GA) – Reliever	GA airport having the function of relieving congestion at a commercial service airport and providing GA access to its community. Must have at least 100 based aircraft or 25,000 annual itinerant operations
General Aviation (GA)	All other NPIAS airports

Source: FAA Order 5090.3, Field Formulation of the National Plan of Integrated Airport Systems.

### Continuing Florida Aviation System Planning Process (CFASPP)

The Continuing Florida Aviation System Planning Process (CFASPP) is the FDOT's effort to promote a constant awareness of the opportunities and challenges facing all public airports throughout the State of Florida. As the name implies, the intent of the CFASPP is to “continually monitor the aviation environment and determine the development requirements to best meet projected aviation demands.”<sup>5</sup> As such, approximately every five

<sup>4</sup> FAA National Plan of Integrated Airport Systems, 2009-2013 estimated development cost.

<sup>5</sup> <http://www.cfasp.com/>

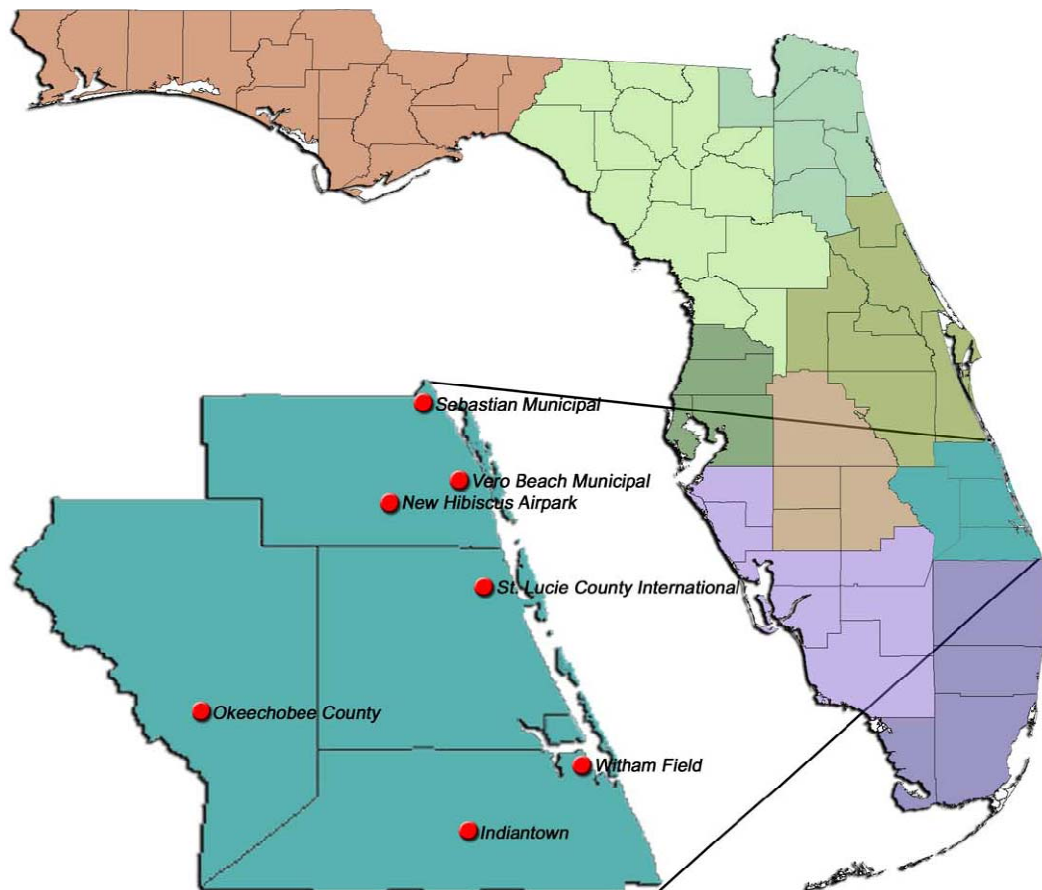




years the FDOT conducts a comprehensive reevaluation of the needs of all public airports in the state, most recently with the *Florida Aviation System Plan (FASP) 2025*. The *FASP 2025* identifies two types of airports: commercial service and community airports – the FDOT selected the term “community airport” rather than “general aviation” to emphasize the importance of the airport to the community it serves. Since FPR only serves GA activity at this time, it is classified as a community airport. However, the *FASP 2025* indicates that FPR may attract future commercial airline services associated with tourism, business, and international passengers.

Further, FPR is categorized in the Treasure Coast planning region of the *FASP 2025*, which includes Martin, St. Lucie, Indian River, and Okeechobee Counties. Within the Treasure Coast Region, there are seven public-use airports as shown in **Figure 2-5** and **Table 2-2**; according to the *FASP 2025*, FPR and Vero Beach Municipal Airport (VRB) are the only two airports with the potential to accommodate future commercial services. As a result, FPR is recognized as an important airport within Florida’s aviation system, and is considered necessary to support the growing population and economy of the Treasure Coast Region, and additionally to relieve congestion at commercial airports in southeast Florida, potentially by serving as a future commercial facility. For comparison purposes, **Table 2-2** also lists several characteristics of the seven public-use airports within the Treasure Coast Region; as shown, the acreage of FPR (3,844 acres) is almost as much as the four other NPIAS airports combined (4,132), and FPR is the only airport in the region with an onsite United States Customs and Border Patrol facility.

**Figure 2-5**  
**Treasure Coast Region Public Airports**



*Source: Florida Aviation System Plan (FASP) 2025.*



**TABLE 2-2  
TREASURE COAST REGION PUBLIC AIRPORTS**

<b>Airport (FAA Identifier)</b>	<b>St. Lucie (FPR)</b>	<b>Vero Beach (VRB)</b>	<b>Witham (SUA)</b>	<b>Okeechobee (OBE)</b>	<b>Sebastian (X26)</b>	<b>Indiantown (X58)</b>	<b>New Hibiscus (X52)</b>
<b>City</b>	Fort Pierce	Vero Beach	Stuart	Okeechobee	Sebastian	Indiantown	Vero Beach
<b>County</b>	St. Lucie	Indian River	Martin	Okeechobee	Indian River	Martin	Indian River
<b>County Population (2008)</b>	268,691	134,987	147,642	40,752	134,987	147,642	134,987
<b>Nautical Miles (NM) from FPR</b>	N/A	10 NM	20.4 NM	29.1 NM	20.3 NM	27.7 NM	11.8 NM
<b>Acreage</b>	3,844	1,707	739	1,060	626	600	90
<b>Tower</b>	Yes	Yes	Yes	No	No	No	No
<b>Longest Runway</b>	6,492 Feet	7,314 Feet	5,826 Feet	5,000 Feet	4,024 Feet	6,300 Feet (Turf)	3,120 Feet (Turf)
<b>Runway Pavement Strength (lbs)</b>	60,000 DW	115,000 DW	105,000 DW	40,000 SW	22,000 SW	NA	NA
<b>Customs Facility</b>	Yes	No	No	No	No	No	No
<b>NPIAS Future Service Level</b>	GA	GA	GA	GA	GA	N/A	N/A
<b>NPIAS Development Cost (2009-2013)</b>	\$23,173,608	\$19,190,000	\$40,947,527	\$1,489,322	\$6,082,410	N/A	N/A
<b>FASP 2025 Future Service Level</b>	Commercial	Commercial	Community	Community	Community	Community	Community
<b>Part 139 (Commercial) Certification</b>	No	Yes	No	No	No	No	No
<b>Nautical Miles (NM) from PBI</b>	50.8 NM	60.8 NM	30.7 NM	53.4 NM	71.1 NM	28.2 NM	61.4 NM

*Note: DW=Dual Wheel landing gear; SW = Single Wheel landing gear*

*Sources: AirNav.com, Woods & Poole Economics, FASP 2025, FAA, The LPA Group Incorporated, 2008.*



The Florida Department of Transportation also develops a “Five-Year Work Program” for transportation projects in the State of Florida (including aviation, highways, rail, seaport, etc.).<sup>6</sup> Projects are listed in FDOT’s Work Program based on best available forecasts of anticipated costs and funding, and should be funded as scheduled, pending any unforeseen delays or budgetary shortfalls. For FPR, the FDOT’s Work Program, November 2008, consists primarily of projects related to pavement rehabilitation, safety, and planning projects as illustrated in **Table 2-3**. It is important to note that the first three to five years of funding are locked based upon the projects shown unless a shift of funding is required associated primarily with a safety or capacity improvement.

Although FDOT funding has been assigned to FPR within both the Joint Automated Capital Improvement Program (JACIP) and FDOT Five-Year Work Program, this does not guarantee that the airport will receive the funding. Federal and State funding is based upon the available, annual national and statewide budgets, the type of airport, and FAA calculated project priorities. Also, grant funding is not based upon the planning costs rather it is based upon the accepted construction bid, and an airport typically has four years to complete the project and close out the bid grant. If an airport does not start a project in the first year, both FAA and FDOT may take back the funding so it can be used at another airport with a higher priority project.

#### Other Considerations

As a result of increased congestion at Palm Beach International (PBI) and Ft. Lauderdale International (FLL) combined with continued population growth in St. Lucie County, the potential of developing FPR or some other nearby facility as a commercial service airport continues to be discussed by members of the community as well as the St. Lucie BOCC. In the past, both the community and BOCC have not been willing to pursue commercial service at FPR. However, changes within the region and aviation industry as a whole warranted an evaluation of the airport’s current role within the community as well as the potential for attracting commercial service.

Regardless of what is ultimately decided by community leaders, airlines, etc., this section identifies some reasons why FPR may be considered as a potential commercial reliever for PBI. Although no forecasts for commercial airline operations are provided in this AMPU study, **Chapter 4, Demand Capacity/Facility Requirements**, describes what upgrades would be necessary at FPR to ultimately accommodate commercial air carrier service (including requirements for security, runway length, design criteria, terminal area, etc.).

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<sup>6</sup> <http://www2.dot.state.fl.us/FMSupportApps/WorkProgram/Support/FAQ.aspx>





**TABLE 2-3  
FDOT FIVE-YEAR WORK PROGRAM – FPR PROGRAM**

Project	2008	2009	2010	2011	2012	2013	Total Funding
Rehab Electrical Vault	\$200,000						\$200,000
Design/Construct Parallel Runway 10L-28R <sup>1</sup>	\$78,946						\$78,946
Update Airport Master Plan		\$200,000					\$200,000
Install Access Control Systems	\$1,280,000						\$1,280,000
Install Security Fencing <sup>1</sup>	\$3,948	\$3,948					\$7,896
Lightning Protection – Access Control/NAVAIDS	\$9,416						\$9,416
Environmental Mitigation		\$92,000					\$92,000
Design & Rehab Taxiway C				\$1,942,400			\$1,942,400
Design & Rehab Runway 9-27 (future 10R-28L) <sup>1</sup>		\$272,182					\$272,182
Update Master Drainage Plan		\$264,000					\$264,000
Design/Construct New Customs Facility				\$1,099,000	\$875,000		\$1,974,000
Wetland/Protected Species Enhancement Plan				\$201,376			\$201,376
Design/Construct Passenger Terminal					\$1,520,000		\$1,520,000
Design/Rehab Taxiways A & B <sup>1</sup>			\$71,250				\$71,250
Construct Apron				\$808,000			\$808,000
Install Perimeter Fencing <sup>1</sup>			\$3,948				\$3,948
SWPPP Stormwater Plan	\$80,000						\$80,000
Conduct Micro Surfacing – Runway 14-32						\$32,250	\$32,250
Construct Terminal Surface Parking				\$591,200			\$591,200
Design/Construct Connecting Taxiway						\$1,659,000	\$1,659,000
Design/Construct Taxiway Extension						\$585,600	\$585,600
Install Airfield Fence Obstruction Lights		\$120,000					\$120,000
Update ALP						\$65,000	\$65,000

Note: <sup>1</sup> Project includes Federal Aviation Funding, GA Entitlement or Discretionary

Sources: FDOT Five-Year Work Program (2009-2013), St. Lucie County International Airport, and Joint Automated Capital Improvement Program (JACIP), May 2008.



According to the article, *Future of St. Lucie Airport up in the Air*, residents of West Palm Beach are investigating options to shift some commercial traffic away from PBI because of ongoing congestion and noise concerns.<sup>7</sup> Additionally, the *FASP 2025* indicates that during the next three decades, a commercial service airport will be needed within the Treasure Coast Region to accommodate the growing population and economy. Until this point, there have been various proposals on how to relieve congestion at PBI and accommodate local commercial service demands: either through development of a new commercial airport or by upgrading an existing nearby airport. Since FPR already contains many facilities required for commercial certification, with the added benefit of a large amount of developable property, the airport is considered a candidate for commercial service development.

## 2.2 Economic Benefit to the Community

According to the FAA report, *Estimating the Regional Significance of Airports* (September 1992), “It is important that the public and their representatives appreciate the economic significance of airports if they are to continue to support them...Airports provide a variety of public benefits to the surrounding service areas. The most substantial of these are the time saved and cost avoided by using air transportation...Other benefits include the high levels of safety, comfort, and convenience of aviation, the access that an airport provides to the national airport system, and enhancements to community well-being.”<sup>8</sup> Accordingly, FPR provides a number of contributions to the community in terms of access to air transportation, employment, business opportunities, emergency relief, and other factors to the economy of St. Lucie County, Fort Pierce, Port St. Lucie, and the surrounding areas. While the actual economic benefit of FPR is not evaluated in this AMPU study, some noteworthy economic characteristics associated with the airport include:

- ➔ Approximately 50 tenants on the airport property provide a range of services (such as aircraft maintenance/storage, flight training, business/corporate travel, air taxi/charter services, medical transport, missionary flights, yacht building, emergency/rescue, etc.), thus providing continued demand for skilled labor.
- ➔ Supports over 30 businesses including two full-service Fixed-Based Operators (FBOs).
- ➔ Serves as a U.S. Customs and Border Protection Port of Entry.
- ➔ Serves as a busy facility for general/corporate aviation activity, experiencing more than 150,000 in 2008. Subsequently, pilots spend money for services at the airport and within the local area (e.g., fuel, restaurants, and lodging).
- ➔ The only FTZ along the Treasure Coast, thus providing opportunities for investment, construction, and employment/population growth within St. Lucie County.

<sup>7</sup> TCPalm, *Future of St. Lucie Airport up in the Air*, April 19, 2008.

<sup>8</sup> FAA National Planning Division, *Estimating the Regional Significance of Airports*, September 1992



- ➔ Commonly referred to as “The Gateway to the Bahamas” due to onsite U.S. Customs facility and popular Airport Tiki restaurant. Therefore, FPR also serves as an important airport for international travel and commerce.
- ➔ Serves as an important recreational role not only to flyers, but is also home to an aviation-themed golf course, Fairwinds Golf Course which is owned by St. Lucie County, where the holes are named after flying characteristics.
- ➔ Supports the popular tourist industry in the area, such as beaches, fishing, and museums, by proving convenient flight access.

Further, according to the *FASP 2025*, all “Community Airports” in Florida “support over 23,000 jobs, \$680 million in total annual payroll, and \$2.3 billion in total economic activity.”<sup>9</sup> St. Lucie County International Airport’s specific economic impacts according to recent evaluation by the Florida Department of Transportation Aviation Office are illustrated in the following graphic.

### St. Lucie County International Airport Economic Impact



Source: Florida Department of Transportation Aviation Office, *Economic Impact of St. Lucie County Airport*, March 2010.

Direct economic impacts are associated with airport tenants and businesses on the airport as well as construction projects undertaken by the airport or on-airport businesses. Indirect impacts are related to spending from visitors who arrive at the airport via GA aircraft.<sup>10</sup>

Forecasts for St. Lucie County project the population to increase from 268,691 in 2008 to 420,181 by 2028 (increase of 53.6 percent), with the Fort Pierce-Port St. Lucie Metropolitan Statistical Area (MSA) increasing from 411,333 to 631,383 during the same twenty-year

<sup>9</sup> *FASP 2025 Regional Overview – Treasure Coast*

<sup>10</sup> *Economic Impact of St. Lucie County Airport*, Florida Department of Transportation Aviation Office, March 2010.



period (increase of 56.4 percent) – the second highest projected MSA increase in Florida behind the Naples-Marco Island MSA.<sup>11</sup> Based on all of these factors, FPR is a vital economic component of St. Lucie County and the Treasure Coast Region of Florida.

## 2.3 Inventory of Existing Conditions

Prior to the discussion of airfield, landside, and support facilities, it is important to take a look at existing conditions, including surrounding airspace, established noise abatement procedures, and local weather conditions, since these factors can reveal information with regard to current airport operations and future potential.

### 2.3.1 Airspace/Air Traffic Management

Several factors contribute to the high aircraft traffic volume in the southeast Florida airspace, including proximity to popular tourist destinations and populous cities, ideal year-round warm weather conditions, and the presence of numerous civilian and military airports. In an effort to reduce congestion around the country, the FAA is evaluating the implementation of the Next Generation Air Transportation System (NextGen), which is a “plan to modernize the National Airspace System (NAS) through 2025. Through NextGen, the FAA is addressing the impact of air traffic growth while simultaneously improving safety, environmental impacts, and user access to the NAS.”<sup>12</sup> As part of the plan, the FAA has already implemented upgrades to the southeast Florida airspace by publishing new Area Navigation (RNAV) paths (i.e., GPS-guided point-to-point paths) which allow for more efficient aircraft travel with reduced delay. The FAA is using Florida as a ‘test bed’ for integrated NextGen technologies and procedures prior to nationwide deployment, testing RNAV paths for commercial air travel along the busy east coast corridor (e.g., between Miami and New York City).<sup>13</sup> These upgrades are the initial efforts of the NextGen plan, and the FAA intends to roll-out new technologies and airspace reconfigurations in the future, as described later in this study.

At FPR, the on-site Air Traffic Control Tower (ATCT) is open daily from 7:00 a.m. to 9:00 p.m., and controls the surrounding Class D airspace. When the ATCT is closed, the Miami Center Traffic Control Center (ARTCC) controls FPR’s airspace which reverts to Class G, in addition to providing terminal and enroute air traffic services for all aircraft operating on Instrument Flight Rules (IFR) flight plans. According to the FAA publication, *Pilot’s Handbook of Aeronautical knowledge (2008)*, and also depicted in **Figure 2-6**, Class D airspace surrounds towered airports, extends from the surface to 2,500 feet above mean sea level (AMSL), and requires pilots to establish radio contact with the ATCT prior to entering. Additional controlled airspace surrounding FPR is as designated Class E (shown by the thick

<sup>11</sup> Woods & Poole Economics, 2008 State Profile – Florida.

<sup>12</sup> FAA NextGen Fact Sheet, October 29, 2008.

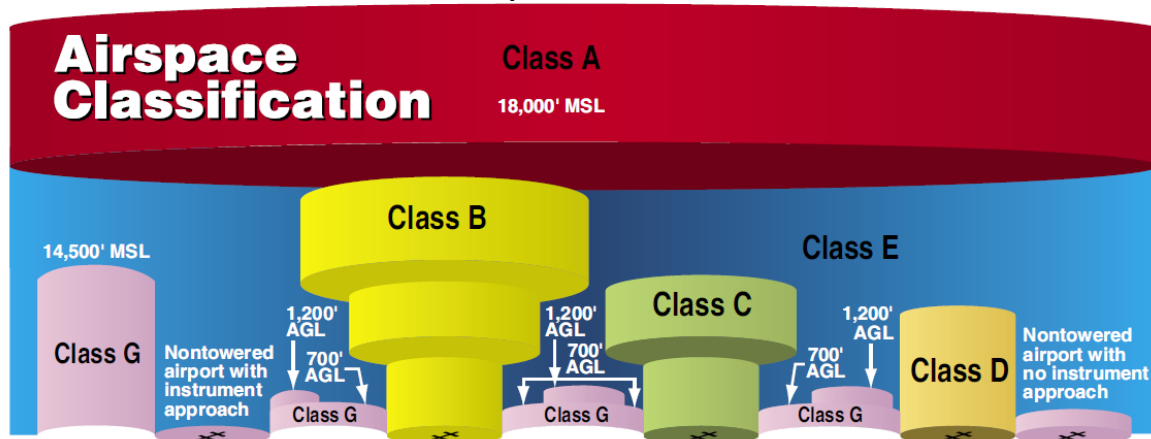
<sup>13</sup> FAA NextGen Fact Sheet, December 18, 2008.



purple ring in **Figure 2-6**, which extends from 700 feet AMSL to 17,999 feet AMSL (prior to entering Class A airspace which is exclusively for IFR aircraft operations). While FPR's Class E airspace overlaps Vero Beach Municipal Airport's (VRB) Class E airspace, ATCT personnel did not report any conflicts at the time of this writing.

Class B airspace surrounds the nation's business airports (up to 18,000 feet AMSL), including Orlando International (MCO) to the northwest of FPR and Miami International (MIA) to the south. Class C airspace surrounds airports serviced by a Terminal Radar Approach Control (TRACON) facility (up to 10,000 feet AMSL), including Palm Beach International (PBI) to the south of FPR and Daytona Beach International (DAB) to the north. Class G represents all other uncontrolled airspace (up to 14,500 feet AMSL).

**Figure 2-6**  
**FAA Airspace Classifications**



Source: FAA Pilot's Handbook of Aeronautical Knowledge, 2008.



FIGURE NO.





Several special use airspace areas are in the vicinity of FPR, including Military Operations Areas (MOAs) and Restricted Areas (RAs). High speed military aircraft and weapons exercises often occur within MOAs and RAs. VFR flight is not restricted within MOAs, although pilots are advised to contact the controlling agency prior to flight through these areas. VFR flight operations within RAs require permission by the controlling agency (e.g., Miami Center ARTCC). IFR flight operations are always routed by air traffic controllers and may transition these airspace areas as allowed. RAs R-2901 A through I, associated with the Avon Park Air Force Range – MacDill Air Force Base Auxiliary Field (AGR), are located approximately 25 nautical miles (NM) west of FPR. Several MOAs are located approximately 20 NM west of FPR adjacent to each other, including Marian, Bassinger, Avon East, and Avon South. **Chapter 4, *Demand Capacity/Facility Requirements***, presents additional characteristics of the airspace surrounding FPR.

### **2.3.2 Noise Abatement Procedures**

According to FAA records, the first Noise Compatibility Program (NCP) for FPR was approved in 1988, which recommended measures to reduce existing incompatible noise exposure (corrective measures) including the “voluntary acquisition” of residential properties, and also to prevent future incompatible noise exposure (preventative measures). However prior to 1988, the St. Lucie County BOCC recognized the need to encourage compatible development adjacent to the airport (e.g., industrial and commercial development) and to encourage pilots to fly specific routes that avoid noise-sensitive areas. For these reasons, the airport employs a Noise Officer whose responsibility is to implement, monitor, and educate pilots about FPR’s noise abatement policies, as well as to address noise complaints. The most recent NCP for FPR, which was developed in conjunction with the *2005 Noise Study* and approved by the FAA in 2006, states that “St. Lucie County should continue to employ a noise office staff person. The monitoring of nighttime operations, program education, and compliance and complaint response are an integral part of the noise program.”<sup>14</sup> The NCP also includes the following operational, land use, and implementation measures:

#### **➔ Operational Measures**

1. Discourage Stage 1 aircraft operations unless for safety, emergency, or aircraft recertification.
2. Maintain voluntary Touch & Go (T&G), Stop &G, and Full-Stop-Taxi-Back Operations during the following times: Monday through Friday 08:00 am – 10:00 pm and Saturdays 09:00 am to 10:00 pm. Additionally, pilots are requested to avoid the above training activities on Sundays and Holidays (See Figure 2-8, 01/01/09).
3. Runway 14 is preferred in calm wind.
4. Construction of new Runway 10L-28R for flight training.

<sup>14</sup> St. Lucie NCP Implementation Measure 6, August 21, 2006.



5. Jet aircraft use “Close-In” departure procedures of the National Business Aviation Association (NBAA).
6. Study feasibility of a 1,500 foot westward shift of Runway 10R-28L.

→ ***Land Use Measures***

1. Update County Airport Zoning Regulations.
2. Provide ability to St. Lucie County to purchase land, aviation easements, or other remedies to minimize development of incompatible land uses.

→ ***Implementation Measures***

1. Pilot Education Program.
2. Community Information Program.
3. Routine Review of NCP Implementation.
4. FAA ATCT Procedures Development.
5. Traffic Pattern Notification Lights for Training Aircraft.
6. Noise Office Staffing.

Currently at FPR, the airport has “Voluntary Noise Abatement Procedures” in-place to reduce incompatible noise exposure to surrounding residential developments (e.g., St. Lucie Village to the east of U.S. 1). As shown in **Figure 2-7**, all Operational Measures of the NCP are being implemented at FPR, with the exception of Operational Measure 6 – study feasibility of a 1,500 foot westward shift of Runway 9R-27L, which will be investigated in the subsequent chapters of this AMPU study. Airport management reports good compliance with these voluntary restrictions. Further, as part of this study, updated noise contours will be developed based on recent and forecast activity levels, fleet mix and recommended development.

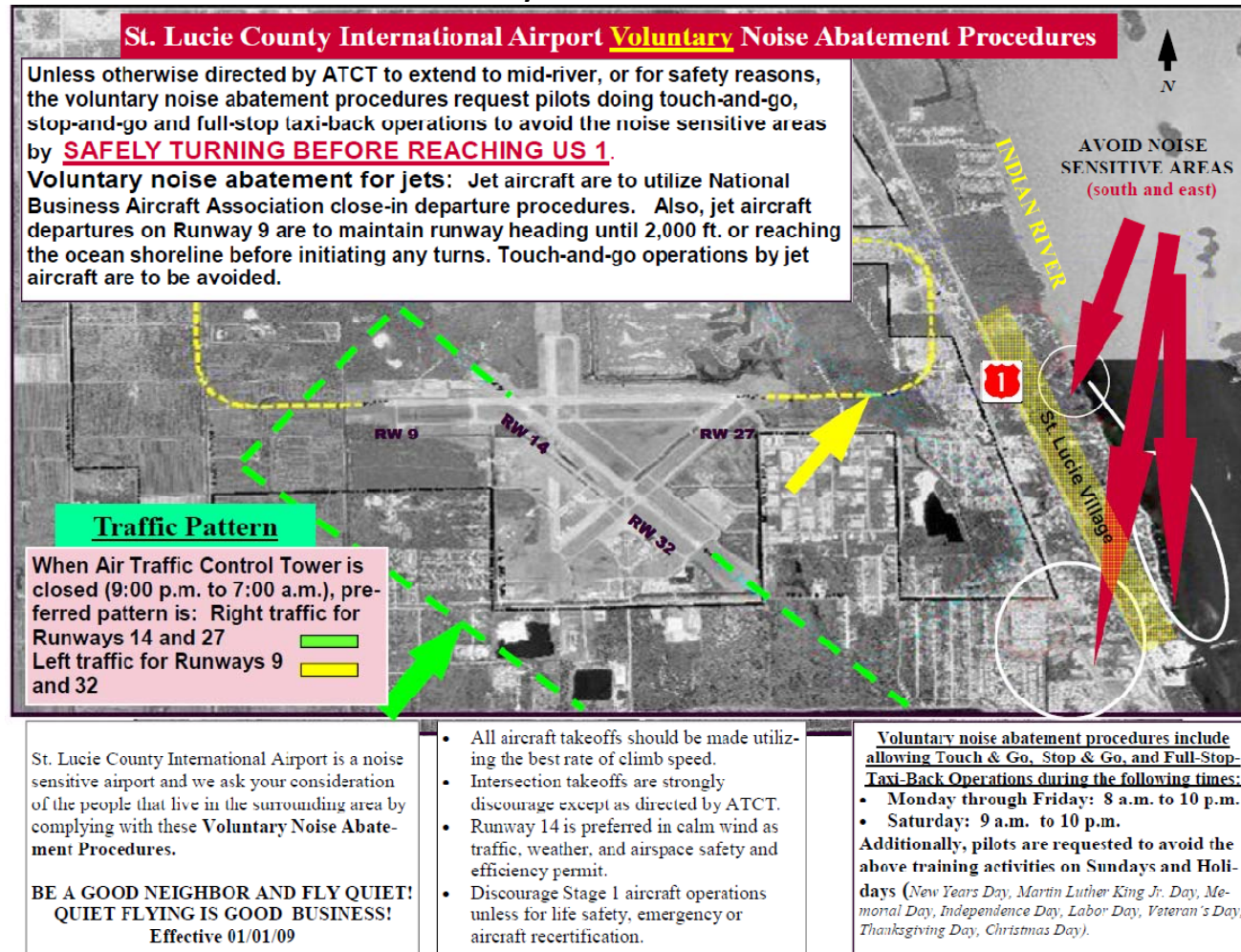
### **2.3.3 Weather Conditions**

#### **Climate**

Climate characteristics, such as airport elevation and average temperatures, are important to analyze since they affect the operational requirements of aircraft (e.g., required runway length for takeoff and landing). At FPR, the field elevation is 24 feet above mean sea level (AMSL), and due to the location in southeast Florida, the temperature is generally warm year-round. The National Climatic Data Center (NCDC) records the airport’s weather data via an on-site Airport Surface Observing System (ASOS). According to **FAA AC 5325-4B, *Runway Length Requirements for Airport Design***, the mean maximum temperature data for the hottest month, as determined from NCDC records, is the accepted method for conducting a runway length analysis.



Figure 2-8  
FPR Voluntary Noise Abatement Procedures



Source: St. Lucie County Airport Department.



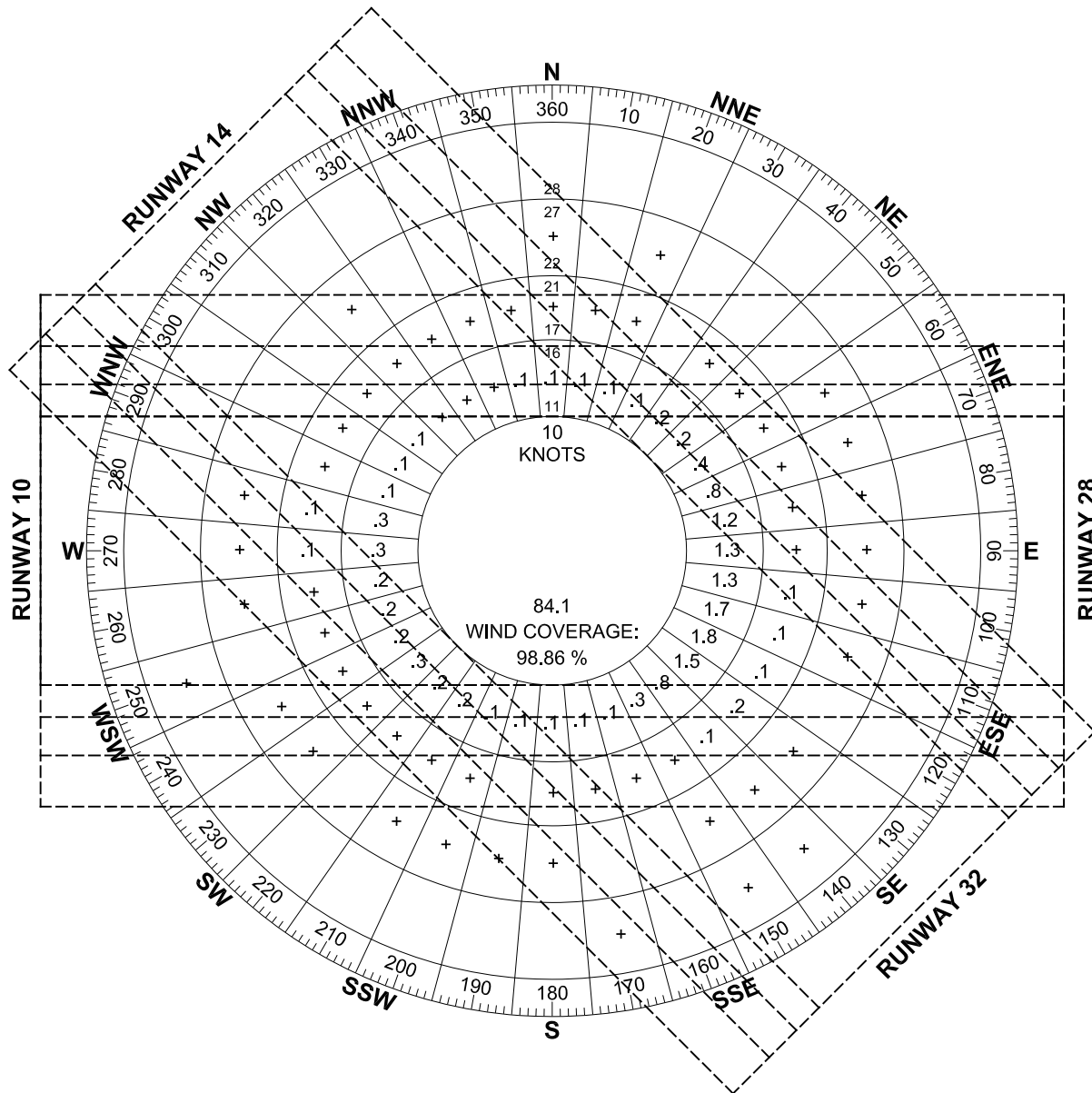
Based on a review of NCDC temperature records for the years 1999 through 2008 at FPR, the mean maximum temperature for the hottest month (August) was determined to be 89.8 degrees Fahrenheit – the mean minimum temperature for the coldest month (January) was determined to be 52.5 degrees Fahrenheit. According to the National Weather Service (NWS), between 1971 and 2000, the Fort Pierce area experienced an average of 53.5 inches of annual precipitation.

#### Historical Wind Coverage

Evaluation of historical wind coverage is also critical since aircraft takeoff and land into the wind. The FAA recommends that sufficient runways be provided to achieve 95 percent wind coverage. This is calculated by using a 10.5-knot (12 mph) crosswind component for light piston-powered aircraft such as those used for flight training at FPR, while a 16-knot (18 mph) crosswind component may be applied to larger corporate jets which frequently operate at FPR. **FAA AC 150/5300-13, *Airport Design***, states that a period of at least ten consecutive years should be examined for determining the historical wind coverage when carrying out an evaluation of this type. Therefore, wind information for FPR was obtained from the on-site weather station (i.e., ASOS). This data was recorded by the NCDC during the period spanning 1999 to 2008.

To determine the historical wind coverage at the FPR, Runways 10R-28L, 10L-28R, and 14-32 were evaluated collectively and also independently as shown in **Table 2-4**. Based on this information, it was determined that any combination of the three runways at FPR provided sufficient coverage to satisfy FAA recommendations, specifically because no single runway provided coverage below 95 percent. However all three runways are necessary for other critical factors (e.g., noise and capacity).

Respectively, **Figures 2-9 through 2-12** illustrate the historical wind roses associated with “All Weather”, “Instrument Flight Rules” (IFR – low ceilings and visibilities caused by bad weather), and “Visual Flight Rules” (VFR) conditions, which highlight the percentage of time wind was recorded from all directions at FPR (0-360 degrees) between 1999 and 2008.



#### WIND DATA SOURCE:

National Climatic Data Center/National Oceanic and  
Atmospheric Administration

Station: Ft. Pierce - St. Lucie # 72210

Period of Observation: 1999 - 2008

Observations: 73,593

Crosswind Component (kts / mph)	Wind Coverage %		
	RW 10/28	RW 14/32	Combined
10.5 / 12	97.15 %	95.02 %	98.86 %
13 / 15	98.84 %	97.82 %	99.63 %
16 / 18	99.81 %	99.66 %	99.94 %
20 / 23	99.97 %	99.94 %	99.99 %



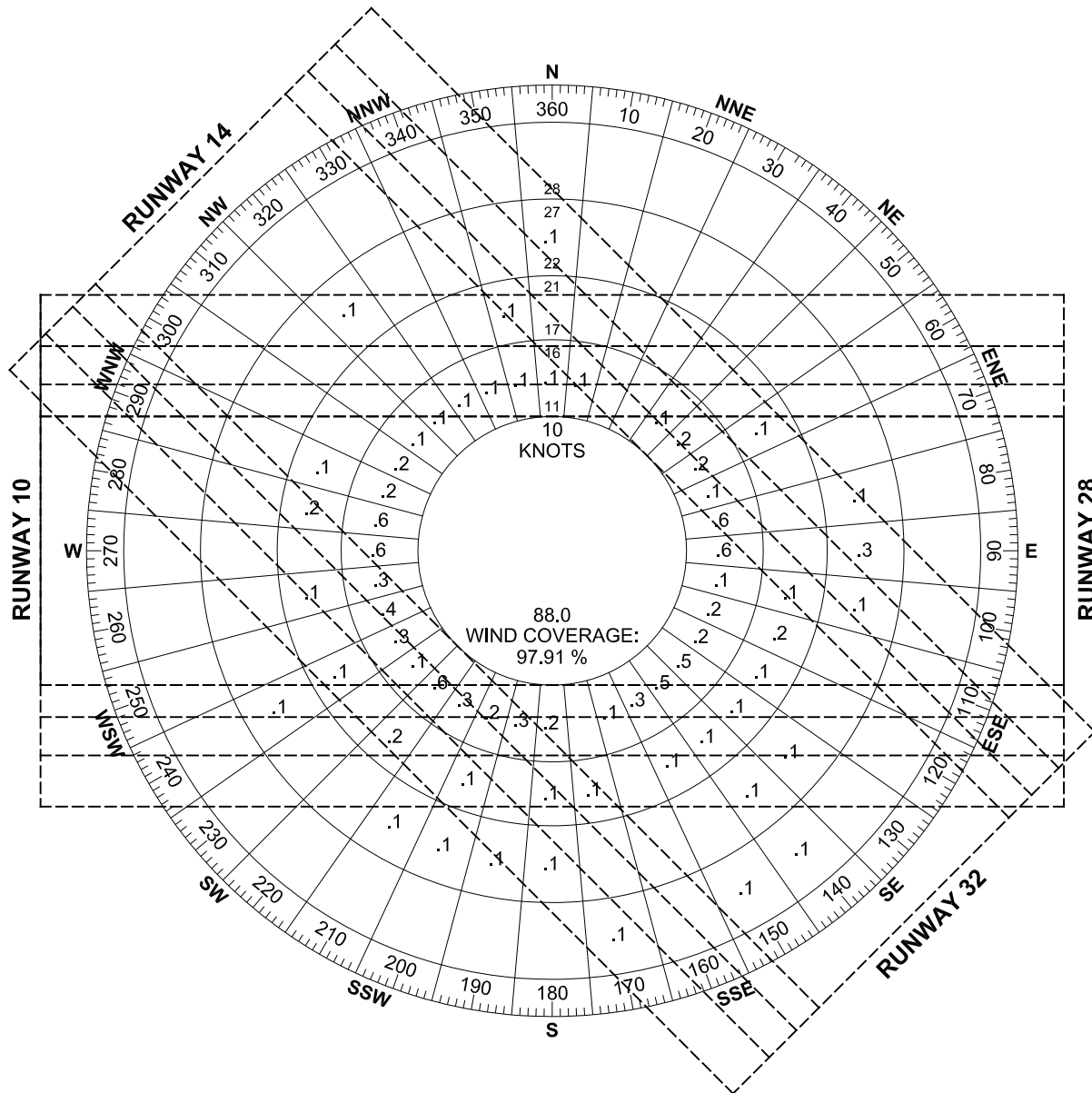
**St. Lucie County -  
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**ALL WEATHER  
WIND ROSE**

DATE  
01/13/2009

**2-9**

FIGURE NO.



#### WIND DATA SOURCE:

National Climatic Data Center/National Oceanic and Atmospheric Administration

Station: Ft. Pierce - St. Lucie # 72210

Period of Observation: 1999 - 2008

Observations: 73,593

Crosswind Component (kts / mph)	Wind Coverage %		
	RW 10/28	RW 14/32	Combined
10.5 / 12	95.90 %	94.44 %	97.91 %
13 / 15	97.62 %	96.89 %	98.96 %
16 / 18	98.78 %	98.58 %	99.42 %
20 / 23	99.31 %	99.52 %	99.76 %



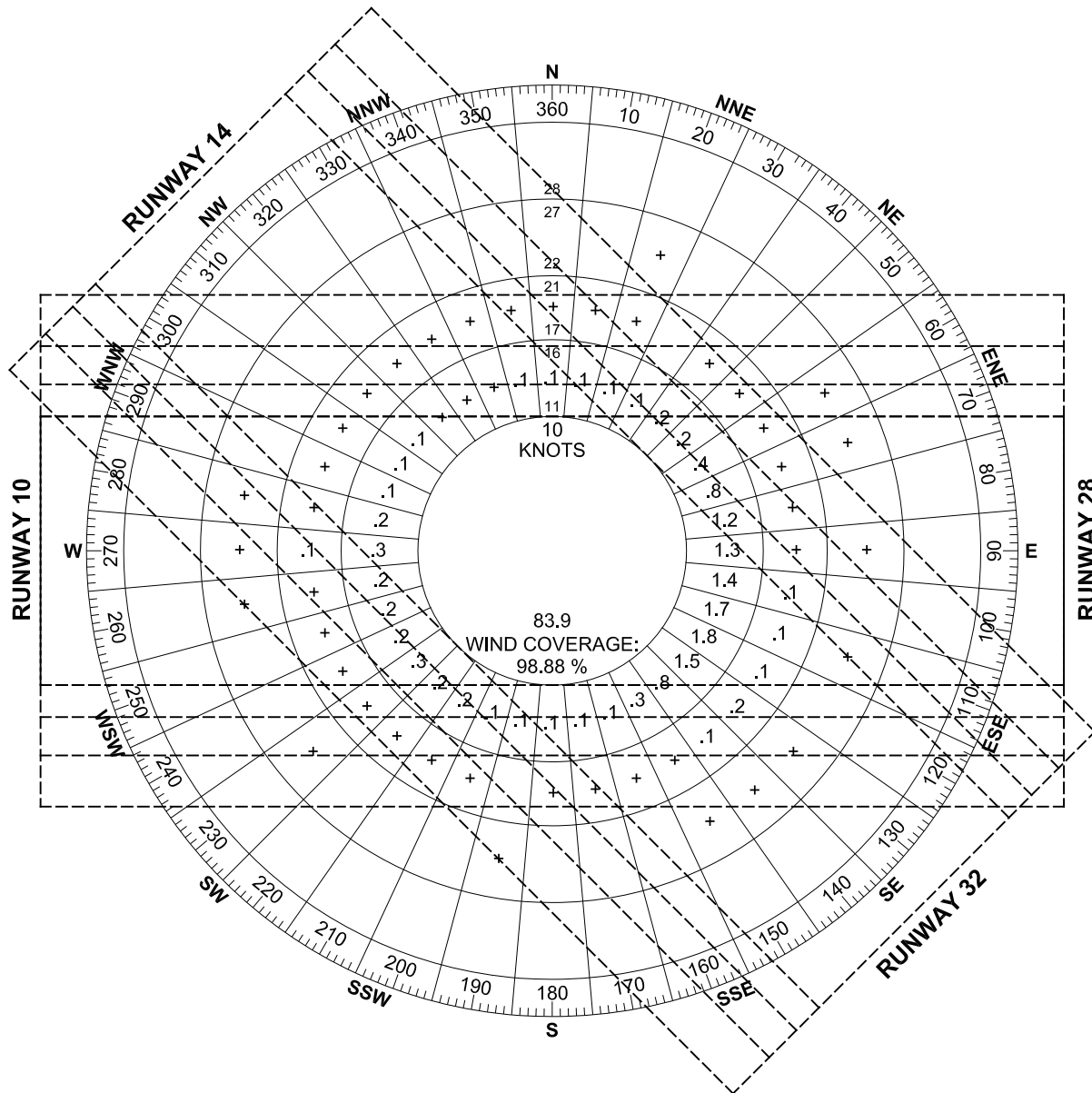
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**IFR  
WIND ROSE**

DATE  
01/13/2009

**2-10**

FIGURE NO.



**WIND DATA SOURCE:**

National Climatic Data Center/National Oceanic and Atmospheric Administration

Station: Ft. Pierce - St. Lucie # 72210

Period of Observation: 1999 - 2008

Observations: 73,593

Crosswind Component (kts / mph)	Wind Coverage %		
	RW 10/28	RW 14/32	Combined
10.5 / 12	97.17 %	95.01 %	98.88 %
13 / 15	98.86 %	97.84 %	99.65 %
16 / 18	99.83 %	99.69 %	99.96 %
20 / 23	99.98 %	99.95 %	100.00 %



**St. Lucie County -  
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Master Plan Update**

**VFR  
WIND ROSE**

DATE  
01/13/2009

**2-11**

FIGURE NO.





**TABLE 2-4  
RUNWAY WIND COVERAGE**

Crosswind Component (Knots)	All Weather Coverage			VFR Coverage			IFR Coverage		
	RWs 10/28	RW 14/32	All RWs	RWs 10/28	RW 14/32	All RWs	RWs 10/228	RW 14/32	All RWs
10.5	97.15%	95.02%	98.86%	97.17%	95.01%	98.88%	95.90%	94.44%	97.91%
13	98.84%	97.82%	99.63%	98.86%	97.84%	99.65%	97.62%	96.89%	98.96%
16	99.81%	99.66%	99.94%	99.83%	99.69%	99.96%	98.78%	98.58%	99.42%
20	99.97%	99.94%	99.99%	99.98%	99.95%	100.00%	99.31%	99.52%	99.76%

*Note: The wind coverage for parallel Runways 10R-28L and 10L-28R is identical, thus is only shown once in the table.*

*Sources: NCDC Wind Records (1999-2008), The LPA Group Incorporated, 2009.*

## 2.4 Airfield

The provision to provide a safe and efficient airfield system is critical for all airports, and as such, the FAA frequently updates regulations for airfield design standards based on new trends and statistics. As described in this section, there are numerous components of an airfield including: runways, taxiways, and safety features like Runway Safety Areas (RSAs), Runway Object Free Areas (ROFAs), and Runway Protection Zones (RPZs). Additional airfield facilities include visual aids, radio-based navigational aids, lighting, marking, and signage. **Figure 2-12** depicts the existing airfield facilities at FPR.

### 2.4.1 Runways

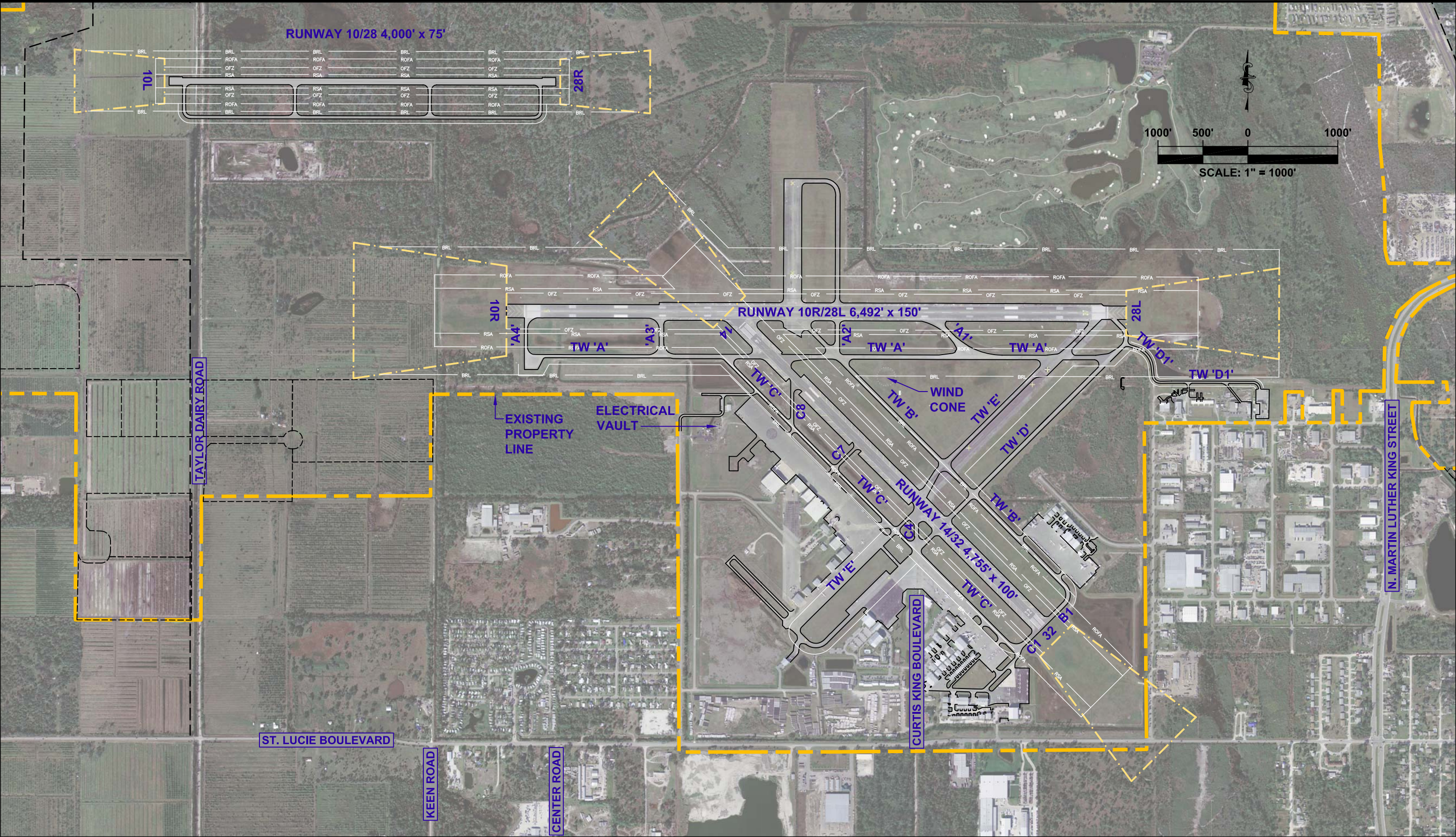
With the recent completion of a new parallel runway in 2009/10, designed to accommodate flight training activity, FPR now has three active runways, including primary Runway 10R-28L (10 Right-28 Left), crosswind Runway 14-32, and training Runway 10L-28R (10 Left-28 Right), as depicted in **Figure 2-12**. An overview of the existing runway characteristics is provided below and summarized in **Table 2-5**.



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St. Lucie County -  
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Master Plan Update

Existing Conditions

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2-12

FIGURE NO.





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### Primary Runway 10R-28L (former 9/27)

Due to the change in magnetic heading year-over-year to a current runway heading of 096-276 (exceeding the +/- five degree difference which triggers a change requirement), the FAA and FDOT has agreed that as part of the pavement overlay project to remark runway 9-27 to 10R-28L<sup>15</sup> and to mark the training runway, 10L-28R. However, to avoid confusion, the primary runway will be referred to as 10R-28L throughout the report.

Runway 10R-28L, oriented in a east-west direction, is 6,492 feet long, 150 feet wide, and includes 25 foot wide paved shoulders on each side of the runway's easternmost 5,000 feet (i.e., the first 1,500 feet of the runway's western end does not have paved shoulders). The runway is designed to an aircraft reference code of C-III, and the existing design aircraft, according to the 2007 Airport Layout Plan, is a Gulfstream II. Medium Intensity Runway Lights (MIRLs) are provided along the runway edges to facilitate operations during low light and poor visibility conditions. Runway 10R-28L is equipped with a full parallel taxiway (Taxiway A) and five (5) connector taxiways. The current runway to taxiway centerline separation is 500 feet, which exceeds current design requirements.

Runway 10R-28L is constructed of asphalt, with a weight bearing capacity of 30,000 pounds for aircraft in a single-wheel landing gear configuration and 60,000 pounds for aircraft in a dual-wheel landing gear configuration. According to the Statewide Airfield Pavement Management Program evaluation for FPR, dated February 19, 2008, the majority of Runway 10R-28L is in poor condition and is exhibiting block cracking, rutting, and longitudinal cracking. Typically, asphalt pavement should be rehabilitated every 10 years. As a result of this evaluation, Runway 10-28 was rehabilitated in 2009.

Runway 10R-28L is also equipped with 200 foot long by 150 foot wide blast pads prior to both runway thresholds. At the time of this writing, the overlay design had been completed and the airport awaits FAA and FDOT grants for the overlay construction. As it is currently designed, the runway would maintain its existing pavement strength of 30,000 lbs single-wheel and 60,000 lbs dual wheel. The overlay construction, although funding has yet to be awarded, is expected to be completed by the year 2010.

However, based upon discussions with existing tenants and members of the Technical Advisory Committee, concerns were raised that the dual wheel weight bearing capacity of Runway 10R-28L is inadequate to accommodate long-range corporate jets (i.e. Gulfstream IV and Global Express jets) and associated insurance requirements (85,000 pounds dual wheel

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<sup>15</sup> According to a National Geodetic Survey (NGS) of the airport conducted on the 149<sup>th</sup> day of 2007, the true heading of Runway 9 is 902748, with a magnetic declination of 5.8, thus resulting in a current magnetic heading of 096-276 for Runway 9-27.





minimum). As a result, pavement strength requirements were evaluated as part of this Master Plan Update based upon the existing and forecast critical aircraft operational requirements.

#### Crosswind Runway 14-32

Runway 14-32 is oriented in a northwest and southeast direction, has a published length of 4,755 feet and width of 100 feet, and includes 50 foot wide paved shoulders. The current design aircraft reference code for Runway 14-32 is a C-II, based upon the design requirements of a Learjet 25/35. The runway is also equipped with MIRLs along the runways entire length. Runway 14-32 is constructed of asphalt, and according to the Pavement Management Program, the pavement is in satisfactory condition since it was last rehabilitated in 2004. The runway has a weight bearing capacity of 15,000 pounds for aircraft in a single-wheel landing gear configuration. Blast pads are not provided on Runway 14-32.

#### Training Runway 10L-28R (formerly referred to as Runway 9L-27R)

Both the 2002 Master Plan Update and 2005 FAR Part 150 Study recommended the development of a 4,000 foot parallel runway. The new runway would provide “additional airfield/runway safety, capacity and noise related benefits”. Further, “using Runway 9L-27R (future 10L-28R) for training will reduce current demand on Runways 9R-27L (future 10R-28L) and 14-32, so that larger and faster aircraft operation can be accommodated more efficiently significantly reducing aircraft operational fleet mix”.<sup>16</sup> Thus, based upon these recommendations, design and construction of a parallel training runway began in 2004, and is expected to be completed by late 2009.

Runway 10L-28R is 4,000 feet in length and 75 feet in width with a weight bearing capacity of 15,000 pounds for aircraft in a single-wheel landing gear configuration. The runway was primarily designed to accommodate aircraft training operations. The design aircraft was designated as a King Air 200, and the runway was designed based upon an Aircraft Reference Code (ARC) of B-II. Runway 10L-28R is also equipped with a full-length, parallel taxiway, Taxiway F, including four (4) connector taxiways. Runway centerline to parallel taxiway centerline separation is 400 feet, which exceeds FAA standard design requirements.

Runway 10L-28R is located approximately 2,550 feet (runway centerline separation) to the north and west of the primary Runway 10R-28L in order to limit potential environmental impacts. The primary purpose of this runway is for aircraft to perform touch and go training operations (i.e., a continuous series of takeoffs and landings without stopping), thereby relieving long-term capacity concerns on the other runways, and also reducing aircraft noise exposure to residential areas located beyond the ends of the Runways 28L and 32.

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<sup>16</sup> St. Lucie County International Airport Master Plan, 2002, Chapter 4, Airport Alternatives, page 4-2.



However, as illustrated in **Figure 2-12**, the runway is completely inaccessible from the rest of the airfield, since no taxiway connection is provided. Therefore, as part of this master plan study, several taxiway connection options providing access to the main airfield were evaluated. Like primary Runway 9R-27L, the new training runway will be designated as 10L-28R due to a current magnetic heading of 096-276.

#### **2.4.2 Taxiways**

As depicted in **Figure 2-12, Existing Airfield**, all three runways are supported by full-length parallel taxiways. The south side of primary Runway 10R-28L is supported by parallel Taxiway A, the northeast side of crosswind Runway 14-32 is supported by parallel Taxiway B (parallel Taxiway C runs for much of the southwest side of Runway 14-32), and training Runway 10L-28R is supported by parallel Taxiway F. The only holding bay is located at the western end of Taxiway A (Runway 10R end), and there is an aircraft run-up area located along Taxiway E at the intersection with Taxiway A. Various connector/exit taxiways connect the parallel taxiways to the runways and/or apron areas (including A1 through A4, B1, C1 through C8, and F1 through F4). Connector Taxiways B1 and C1 provide an entrance for takeoffs on Runway 32 and an exit for landings on Runway 14. All taxiways and associated connector taxiways are equipped with Medium Intensity Taxiway Lights (MITLs).

The majority of FPR's landside facilities are located to the southwest of Taxiway C, including the Airport Administration Building, one fixed base operators (FBO) – APP Jet Center Aviation, and various tenant hangars and offices. However, the other FBO – Key Air, is located on the eastern side of the airport property and is accessible via Taxiway B. Taxiways E and D connect from the main landside areas, intersecting with Taxiway B and ending at the Runway 28L end, with connector Taxiway D1 providing access to tenant facilities located along Industrial Avenue 3. However, as part of Key Air's planned development, Taxiway D will be closed and removed to the north of Runway 14-32. Additionally, APP Jet Center's planned development includes closure of Taxiway D to the south of Runway 14-32. The current widths and conditions of the airport's taxiways are summarized in **Table 2-5**.



**TABLE 2-5  
EXISTING AIRFIELD FACILITIES**

Runway Characteristics								
Runway	Length (ft)	Width (ft)	Pavement Strength <sup>1</sup>	VASI <sup>2</sup>	Last Pavement Rehab.	Approach	Markings	Lighting
Runway 10R	6,492	150	30,000 – S 60,000 – D	4-Box VASI	July 2009	ILS, LOC, & GPS	Precision	MIRL/ REILs
Runway 28L				4-Box VASI	July 2009	GPS & NDB	Precision	MIRL
Runway 14	4,755	100	15,000 – S	N/A	2004	GPS & VOR/DME	Non-Precision	MIRL
Runway 32				N/A	2004	GPS	Non-Precision	
Runway 10L	4,000	75	15,000 – S	N/A	N/A	N/A	Visual/Basic	N/A
Runway 28R				N/A	N/A	N/A	Visual/Basic	N/A
Taxiway Characteristics								
Taxiway	Length (ft)	Width (ft) <sup>3</sup>	Last Pavement Rehab.		Lighting	Runway-Taxiway Separation (ft)		
Taxiway A <sup>4</sup>	6,500	35-50	Dec. 1985/ Jun.1990		MITL	500		
Taxiway B	4,400	50	Dec. 1985		MITL	500		
Taxiway C	4,800	35	Dec. 1985		MITL	400		
Taxiway C-1 <sup>5</sup>	1,200	50	Jun 1984		MITL	N/A		
Taxiway D <sup>6</sup>	3,000	50	1989		MITL	N/A		
Taxiway E	2,400	50	2006		MITL	N/A		
Taxiway F	4000	25	Constructed 2009/10		MITL	400		

**Notes:**

<sup>1</sup> Landing gear configurations are: S – Single-wheel; D – Dual-wheel.

<sup>2</sup> VASI – Visual Approach Slope Indicator.

<sup>3</sup> Excludes connector taxiways associated with the primary taxiway.<sup>4</sup> Taxiway A is 35 feet wide from A-4 to A-3 and then expands to 50 feet wide.

<sup>5</sup> Taxiway C-1 is closed to the south of Aviator's ramp.

<sup>6</sup> Taxiway D is planned to be closed as part of development by Key Air and APP Jet Center Aviation.

N/A = Not Applicable

2008 Statewide Airfield Pavement Management Program was completed in February 2008 by URS Corporation Inc., MACTEC Engineering & Consulting, Inc., Planning Technology Inc., and ASC Geosciences, Inc. As a result, pavement sections and condition will be discussed in more detail within the Facility Requirements and Alternatives Sections of this report.

Sources: FAA Airport/Facility Directory, Southeast US, September, 2008; AirNav, 2009, and The LPA Group Incorporated, 2009.



### 2.4.3 Aprons, Tie-Downs and Helipads

Aircraft parking aprons as shown in **Figure 2-12, Existing Airfield**, are generally divided into two user categories: Based Aircraft Parking and Transient Aircraft Parking. Transient aircraft parking at FPR is located adjacent to the two local fixed based operators (FBOs), Key Air and APP Jet Center Aviation, commonly referred to as the West GA Apron and East GA Apron, respectively. Additional transient parking is available on the terminal apron north of the Airport Administration/GA Terminal and U.S. Customs facilities.

The airport is also home to a variety of aviation operators, including two associated with flight training, maintenance, law enforcement, and experimental aircraft. Due to the limited number of T-hangar facilities on the airfield, the majority of single and small multi-engine aircraft are stored on apron tie-downs. Most based aircraft tie-down facilities are located near their associated facilities, including the Sheriff's Department and Experimental Aircraft Association (EAA) facilities.

The estimated size and storage capacity of existing airport tie-down apron facilities is provided in **Table 2-6** and in **Figure 2-13**.

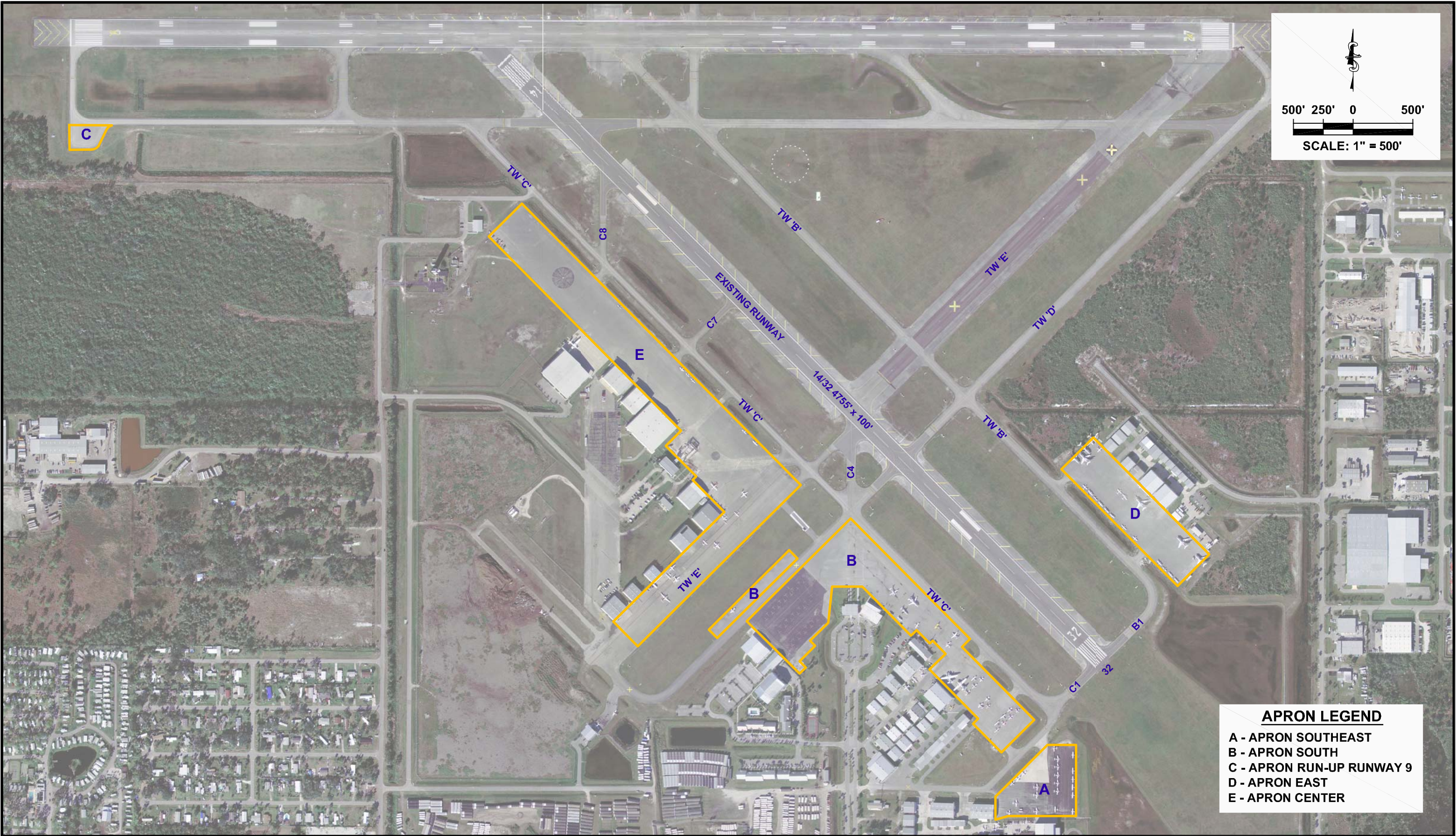
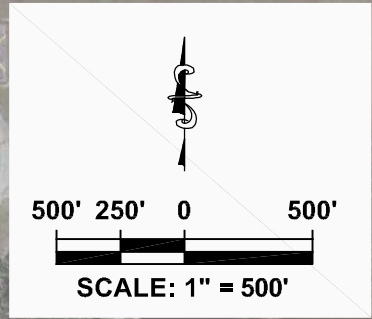
TABLE 2-6 2008 APRON FACILITIES			
Apron Designation	Area (Square Yards)	Approximate Tie-Downs*	Last Construction Date
Apron SE	18,996.67	~38	12/25/1999
Apron South	56,377.78	~171	1/1/1970; 1/1/1984; 1/1/1992 & 1/1/2004
Apron Run-up Rwy 9	2845.78	0	1/1/1991
East Apron	27333.3	~16	1/1/1984
Apron Center	92,740	~12	1942; 1955; 1991
Notes: * Tie-Down information based upon aerial photos and tenant survey data, 2009 Sources: Pavement Evaluation Report, February 2008, 2007 Airport Layout Plan Update and The LPA Group Incorporated, 2009			

Although the airport is utilized for rotorcraft operations, FPR does not have any designated helipads marked on the airfield. Helicopter operations are currently associated with rescue activity by the St. Lucie County Sheriff's Department rescue helicopter and some transient operations. Rotorcraft operators currently utilize the Sheriff's apron and GA Terminal/Airport Administration apron for rotorcraft parking.



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**APRON LEGEND**

- A - APRON SOUTHEAST
- B - APRON SOUTH
- C - APRON RUN-UP RUNWAY 9
- D - APRON EAST
- E - APRON CENTER



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Existing Aprons

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**2-13**

DRAWING NO.





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#### **2.4.4 Visual Approach Aids**

Visual aids provide additional “visual cues” to pilots for the identification and safe operation at an airport. FPR’s visual aids include a lighted rotating beacon, wind cones, Runway End Identification Lights (REILs) and Visual Approach Slope Indicators (VASIs).

##### Airport Rotating Beacon

A rotating beacon universally indicates the presence and location of an airport at night or during low visibility conditions. The rotating beacon at FPR is located in the parking lot area to the south of the Airport Administration Building. The beacon is equipped with an optical rotating beacon system that projects two beams of sequenced flashing lights, one green and one white, 180 degrees apart, which designated a civil land airport. The beacon, which is in good condition, is continuously operated during nighttime hours and when the airfield is under instrument conditions.

##### Airfield Lighting

Airfield lighting is necessary at all airports that intend to accommodate operational activity during nighttime hours and/or inclement weather conditions. It allows pilots to identify the airport from the air and also helps them maneuver safely on the ground during reduced visibility conditions. All airfield lighting electrical requirements at FPR are provided from one main electrical vault and associated back-up generators. The electrical vault was rehabilitated in 2008. The vault and generators are located adjacent to the ATCT on the western side of the airfield. This section details the various airfield lighting components that currently exist at FPR.

Runway lights allow pilots to identify the edges of the runway and assist them in determining the runway length remaining during periods of darkness and restricted visibility. These lighting systems are classified according to their intensity or brightness. As previously mentioned, all three runways are equipped with standard MIRLS along the runway edges. Runway 10R is also equipped with Runway End Identifier Lights (REILs) to aid in identifying the approach end of the runway. When the ATCT is closed, the REILs can be activated by pilots using the Common Traffic Advisory Frequency (CTAF) of 128.2, but the runway lights remain on continuously at night.

Similarly, all taxiways and associated connectors are equipped with MITLs along the taxiway edges. All lighting is in good condition, and FPR has recently (2008) installed a lightening protection system to mitigate potential impacts to the airport’s access control/security system, navigational aids (NAVAIDs) and airfield lighting.



### Wind Cone

As shown in **Figure 2-12, Existing Airfield**, a lighted wind cone is centrally located near the intersection of Taxiways A and B, and is enclosed within a segmented circle for easy navigation by pilots in-flight.

### Visual Approach Slope Indicator

The Visual Approach Slope Indicator (VASI) is a system of lights on the side of an airport runway that provides visual descent guidance information during the approach to a runway. These lights may be visible from up to five miles during the day and up to 20 miles or more at night. Typically 'basic visual approach slope indicators consist of two sets of lights (4-box). Each set of lights is designed to appear as either white or red, depending upon the approach angle. When the pilot is approaching the lights at the proper angle, meaning the pilot is on the glide slope, the first set of lights appears white and the second set appears red. When both sets appear white, the pilot is flying too high, and when both appear red he is flying too low. This is the most common type of visual approach slope indicator system.<sup>17</sup>

Only Runways 10R and 28L are currently equipped with four-box VASIs. Both are located on the left side of the runway; the first VASI box of on Runways 10R and 28L are located approximately 60 feet from the marked runway threshold. In the 2007 Airport Layout Plan Update, it was recommended that the older VASIs be replaced by the newer 4-box precision approach path indicator lights (PAPIs).

### **2.4.5 Signage**

Airport signage provides essential guidance information that is useful to a pilot during all phases of movement on the airfield. FPR is equipped with an array of airfield signage that complies with **AC 150/5340-18C, Standard for Airport Sign Systems**. This advisory circular contains the FAA standards for the siting and installation of signs on airport runways and taxiways.

Standardized taxiway and runway designation systems enhance safety and improve efficiency, and are used to indicate an intersection of or an entrance to a runway, taxiway or other critical movement area. Other signage includes mandatory instruction signs, which are identified by a red background and white inscription, and directional signage indicated by a yellow background and black inscriptions. Most of these signs consist of taxiway directional signs with arrows to an exit or entry to a taxiway. These signs are typically multi-modular with an accompanying location sign identified by a black background and yellow inscriptions of the taxiway designator.

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<sup>17</sup> Basic Visual Approach Slope Indicator Defined, Wikipedia, Free Encyclopedia, 2009





Airfield signage at FPR is comprised of lighted taxiway and runway designator signage and runway hold position signage. Improvements to existing signage and future improvements will be discussed in later in the Facility Requirements chapter.

#### **2.4.6 Weather Reporting Facilities**

St. Lucie County International Airport has an Automated Surface Observation System (ASOS) which is used to measure and record weather conditions by using a suite of sensors. ASOS units are implemented cooperatively with the National Weather Service (NWS) and FAA. Specifically, the ASOS at FPR which is situated on the airfield just northeast of the Runway 10R threshold, records temperature, visibility, precipitation types and amounts, wind direction and speed, cloud ceiling and barometric pressure, among others. Pilots can obtain current weather recordings from FPR's ASOS through the Air Traffic Information Service (ATIS) frequency 134.825, which is always available 24 hours a day.

#### **2.4.7 Navigational Aids (NAVAIDS)**

In addition to the navigational systems and markings previously discussed, runways are generally equipped with other navigational devices (NAVAIDS) to aid pilots in takeoff and landing procedures. Some give indications of weather conditions, while others give either visual or instrument course guidance. NAVAID facilities at FPR, as they relate to the existing precision and non-precision instrument approaches to the runways, are presented in this discussion.

##### **Instrument Landing System (ILS)**

As previously mentioned, St. Lucie International Airport is currently equipped and owns an Instrument Landing System (ILS) to provide precision instrument approaches to Runway 10R as shown in **Figure 2-13**. ILS systems provide both vertical and horizontal guidance to pilots on approach to the runways. FPR's ILS system is comprised of two components. The first element consists of a glide slope facility. The glide slope facility indicates aircraft vertical position relative to the runway threshold end and the approach slope to the runway. This glide path beam allows pilots to precisely know their position in relation to the approach surface. The second element of an ILS consists of an electronic localizer. Since an ILS approach is provided to the Runway 10R, the related localizer antennas are installed off the opposing end. The localizer antenna provides electronic azimuth steering information to the pilot based on the aircraft position relative to the runway centerline. In short, the localizer provides an electronic beam that travels above the approximate runway centerline that provides a pilot with an indication of whether the aircraft is to the left or right of the appropriate course to the runway.



ILS approaches are typically supplemented with approach lighting systems that extend far beyond the runway end to allow for reduced visibility minimums (i.e., the minimum visibility the approach can be flown), such as a Medium Intensity Approach Lighting System (MALSR). Although, as previously mentioned, the Runway 10R threshold contains REILs, thus the ILS approach can only be conducted when the visibility is not lower than three-quarters of a mile. **Figure 2-14** depicts the published ILS approach to Runway 9R, which brings aircraft down to a Decision Altitude (DA) of 233 feet AMSL (200 feet above ground level) when the pilot must decide to whether to complete the landing or abort.

#### Global Positioning System (GPS)

GPS is a satellite based navigation system that consists of a network of satellites known as a constellation. This constellation provides a celestial reference for determining the position of any point on or above the Earth's surface. By analyzing the time delays of signals received from some of these satellites, air based receivers are able to determine an aircraft's latitude, longitude, and altitude. The GPS straight-in and circling non-precision approach offer lower minimum descent altitudes and visibility requirements. GPS approach procedures for Runways 10R-28L and 14 are provided in **Figures 2-15, 16 and 17**, respectively. The FAA plans to publish GPS-based instrument approach procedures (GPS, RNAV, and LPV) to Runway 32 on December 17, 2009.

WAAS is a GPS-based navigation system which augments the existing GPS signals to provide the user highly accurate position and tracking information. Localizer Precision with Vertical Guidance (LPV) is an instrument approach procedure utilizing WAAS technology to provide both vertical and horizontal guidance to aircraft. Like basic GPS navigation, WAAS and LPV approaches are available in all weather terrain conditions. Currently, only Runway 14 has an LPV approach, with minima of 325 ft MSL (301 ft AGL) in one statute mile (1-Mile) visibility.

#### Very High Frequency Omni directional Radio Range with Distance Measuring Equipment (VOR/DME)

A VOR is a ground-based electronic navigation aid that transmits signals, 360 degrees in azimuth, called radials. These signals are received and compared by the aircraft receiver to transmit course and position information to the cockpit instruments. Distance measuring equipment (DME) is a transponder-based radio navigation technology. Aircraft use DME to determine their distance from a land-based transponder by sending and receiving pulse pairs - two pulses of fixed duration and separation. The ground stations are typically co-located with VORs.

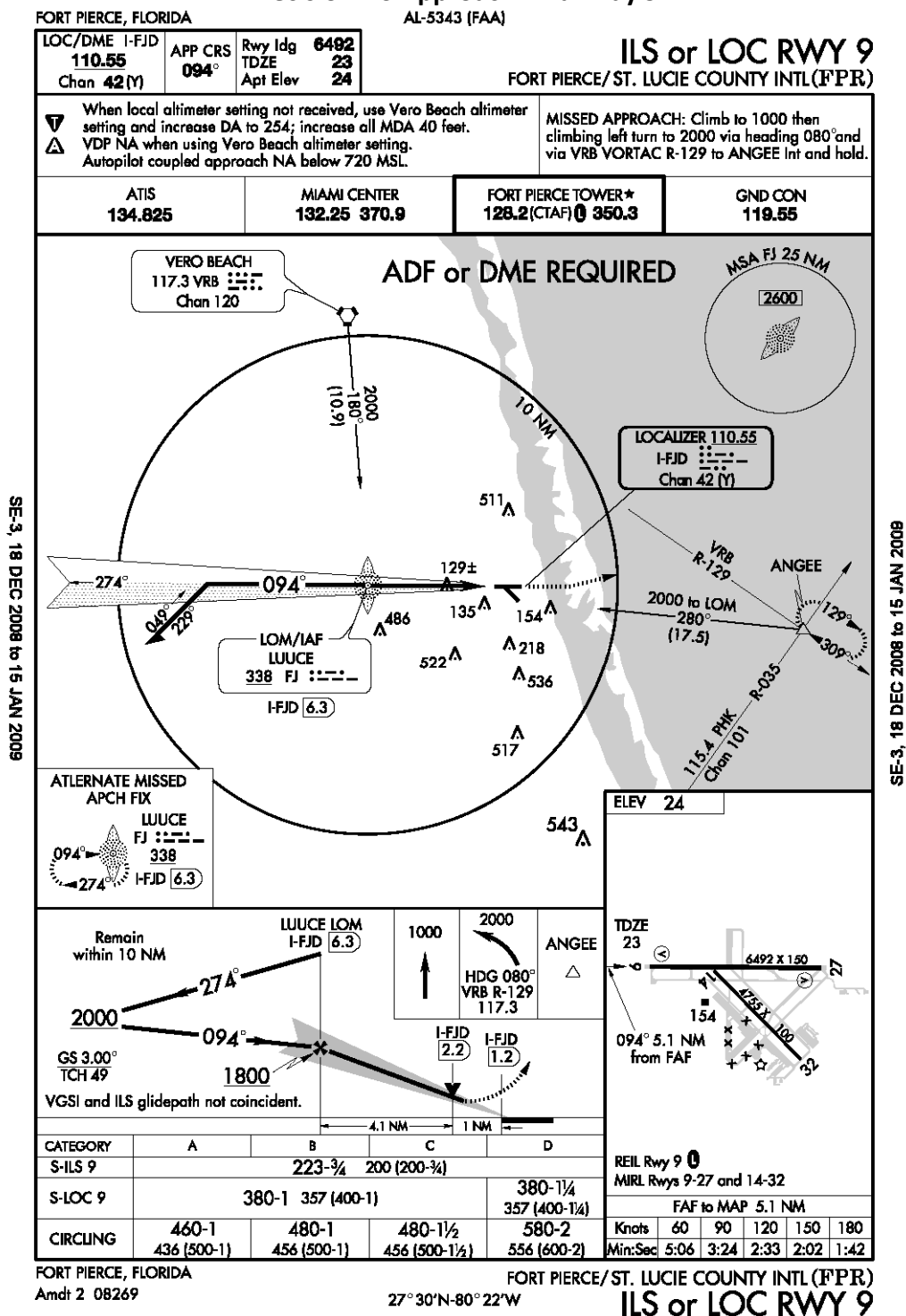


The VOR/DME approach to Runway 14 utilizes the Vero Beach (VRB) VOR, located 12.6 miles northwest of FPR, and can be conducted when the visibility is not lower than one-mile down to a DA of 420 feet AMSL (396 feet AGL) as illustrated in **Figure 2-18**.

#### Non-Directional Beacon (NDB)

NDBs are ground-based navigation stations that emit a single medium frequency signal which is received by cockpit instruments. This instrument displays basic directional heading information to or from the station. FPR is equipped and owns an on-site NDB, located in the southwest quadrant of the airport property adjacent to Hammond Road, with a published NDB approach to Runway 27, as shown in **Figure 2-19**, providing approach minima down to 640 feet AMSL (616 feet AGL) and one-mile visibility.

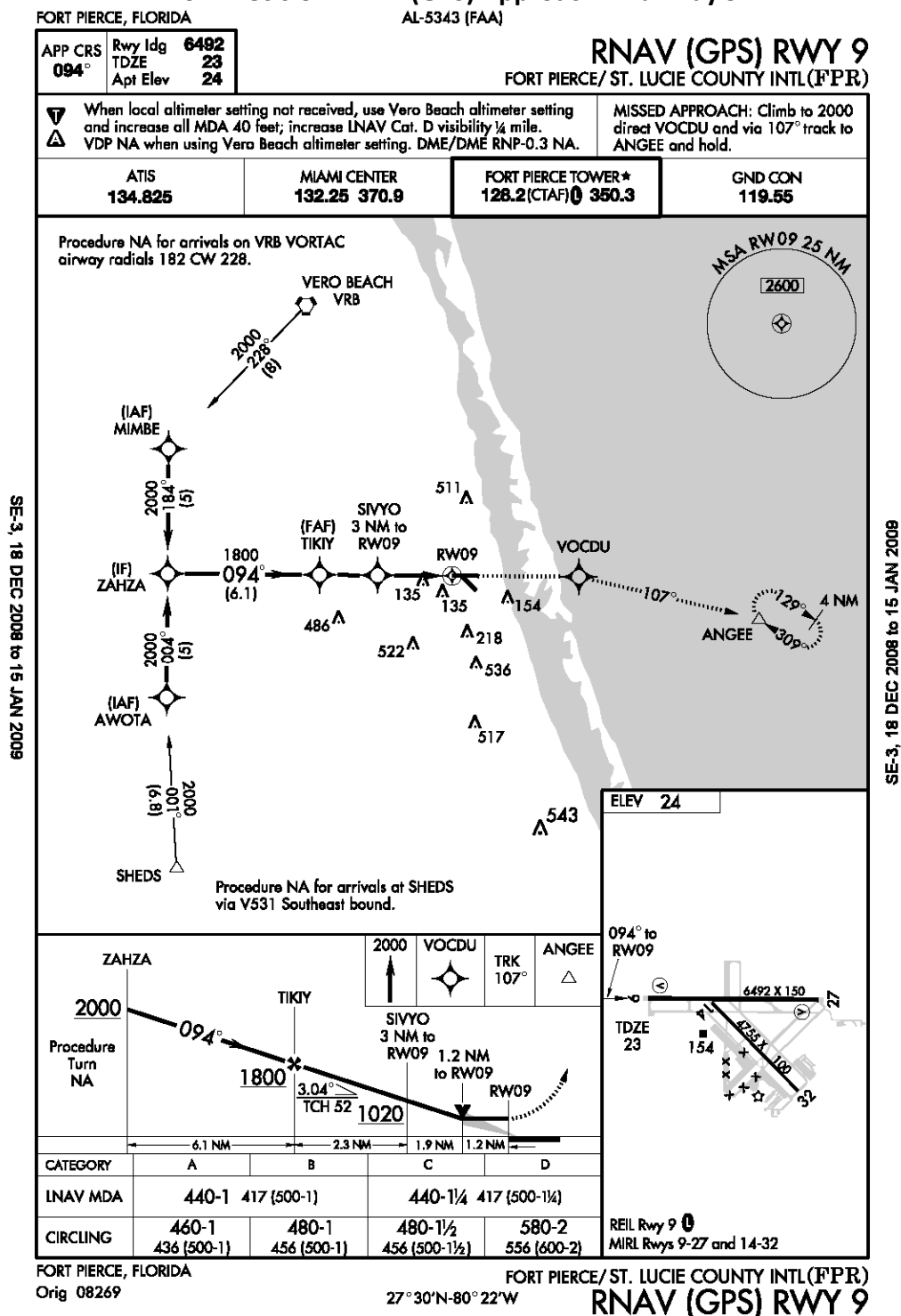
**Figure 2-14**  
**Precision ILS Approach – Runway 9**



Source: U.S. Terminal Procedure Publication (effective 12-15-08 through 1-15-09).



**Figure 2-15**  
**Non-Precision RNAV (GPS) Approach – Runway 9**



Source: U.S. Terminal Procedure Publication (effective 12-15-08 through 1-15-09).

**Figure 2-16**  
**Non-Precision RNAV (GPS) Approach – Runway 27**

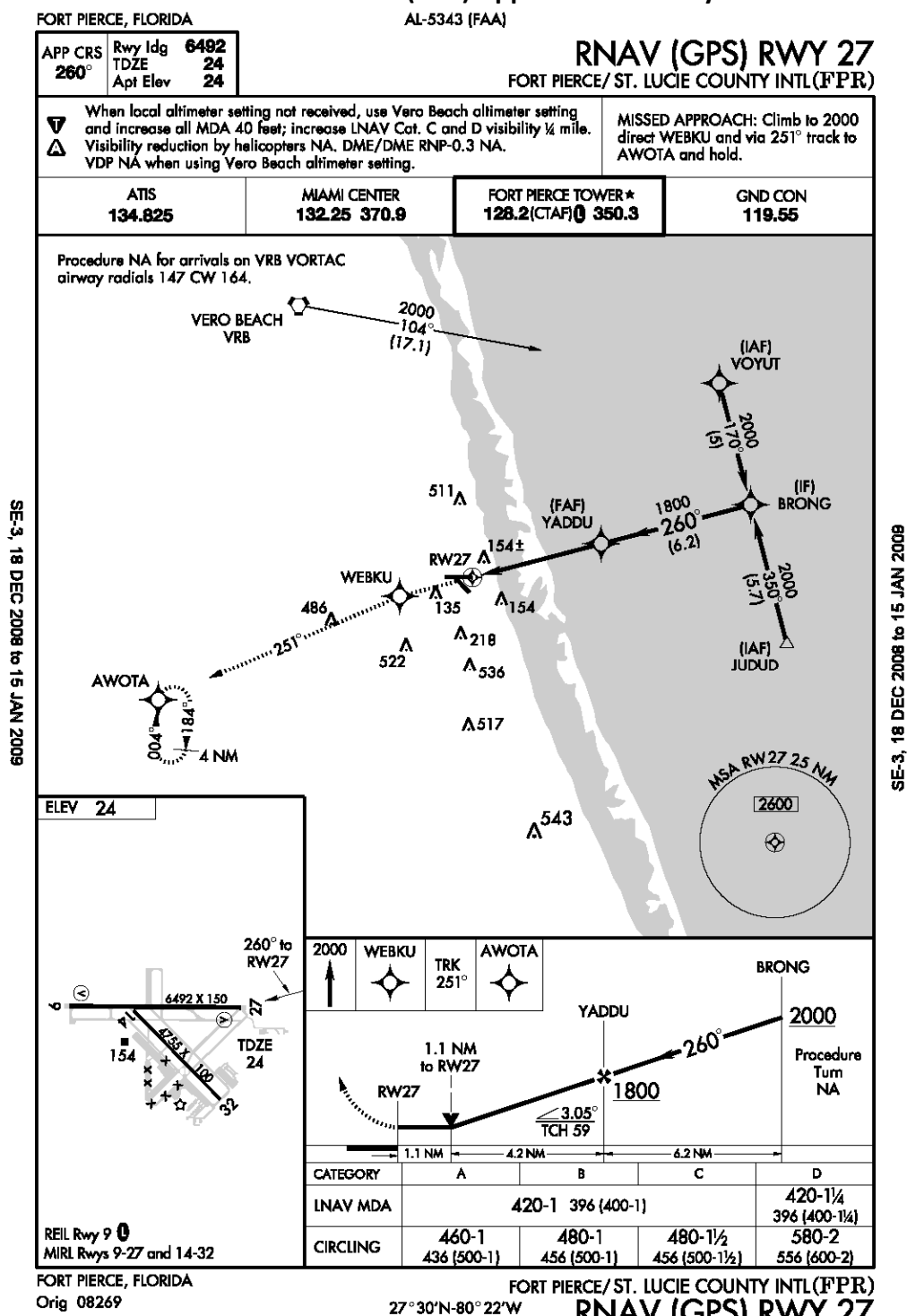


Figure 2-17

## Non-Precision RNAV (GPS) Approach – Runway 27

FORT PIERCE, FLORIDA

AL-5343 (FAA)

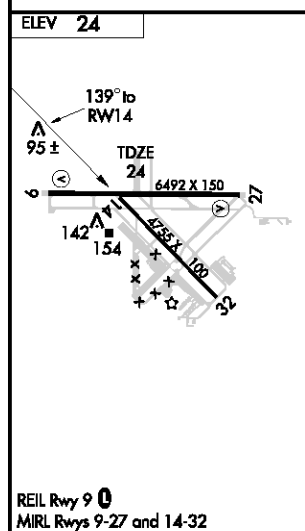
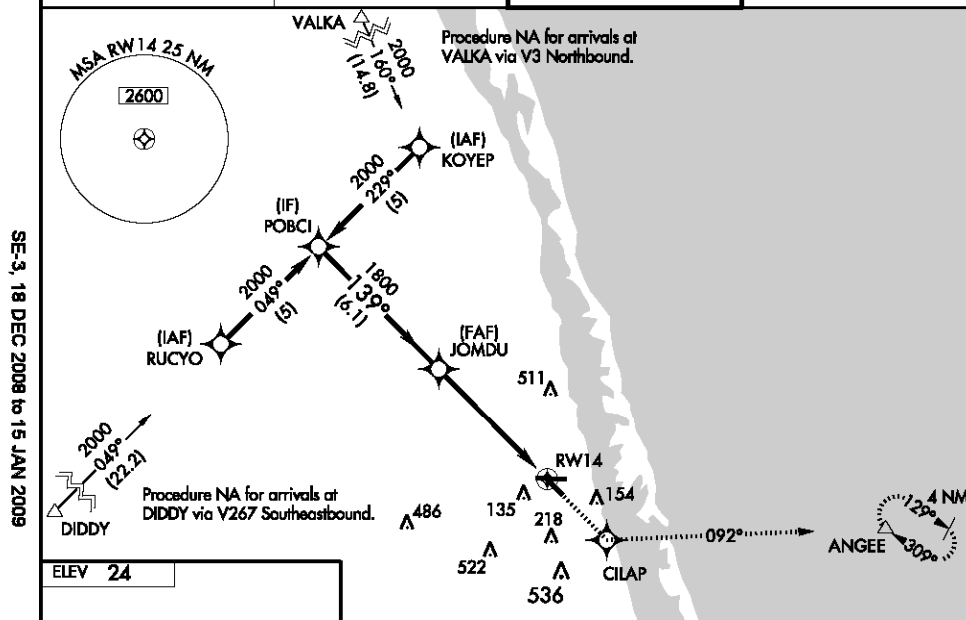
WAAS CH <b>82508</b> <b>W14A</b>	APP CRS <b>139°</b>	Rwy Idg TDZE Apt Elev	<b>4755</b> <b>24</b> <b>24</b>
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**RNAV (GPS) RWY 14**  
FORT PIERCE/ ST. LUCIE COUNTY INTL(FPR)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 49°C (120°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Vero Beach altimeter setting and increase LPV DA to 356; increase LNAV/VNAV DA to 415; Increase all MDA 40 feet; Increase LPV and LNAV/VNAV visibility ¼ mile all Cnts.; LNAV Cat. C visibility ¼ mile. VDP and Baro-VNAV NA when using Vero Beach altimeter setting.

MISSED APPROACH: Climb to 2000  
direct CILAP and via 092° track to  
ANGEE and hold.

ATIS <b>134.825</b>	MIAMI CENTER <b>132.25 370.9</b>	FORT PIERCE TOWER ★ <b>128.2(CTAF) 0 350.3</b>	GND CON <b>119.55</b>
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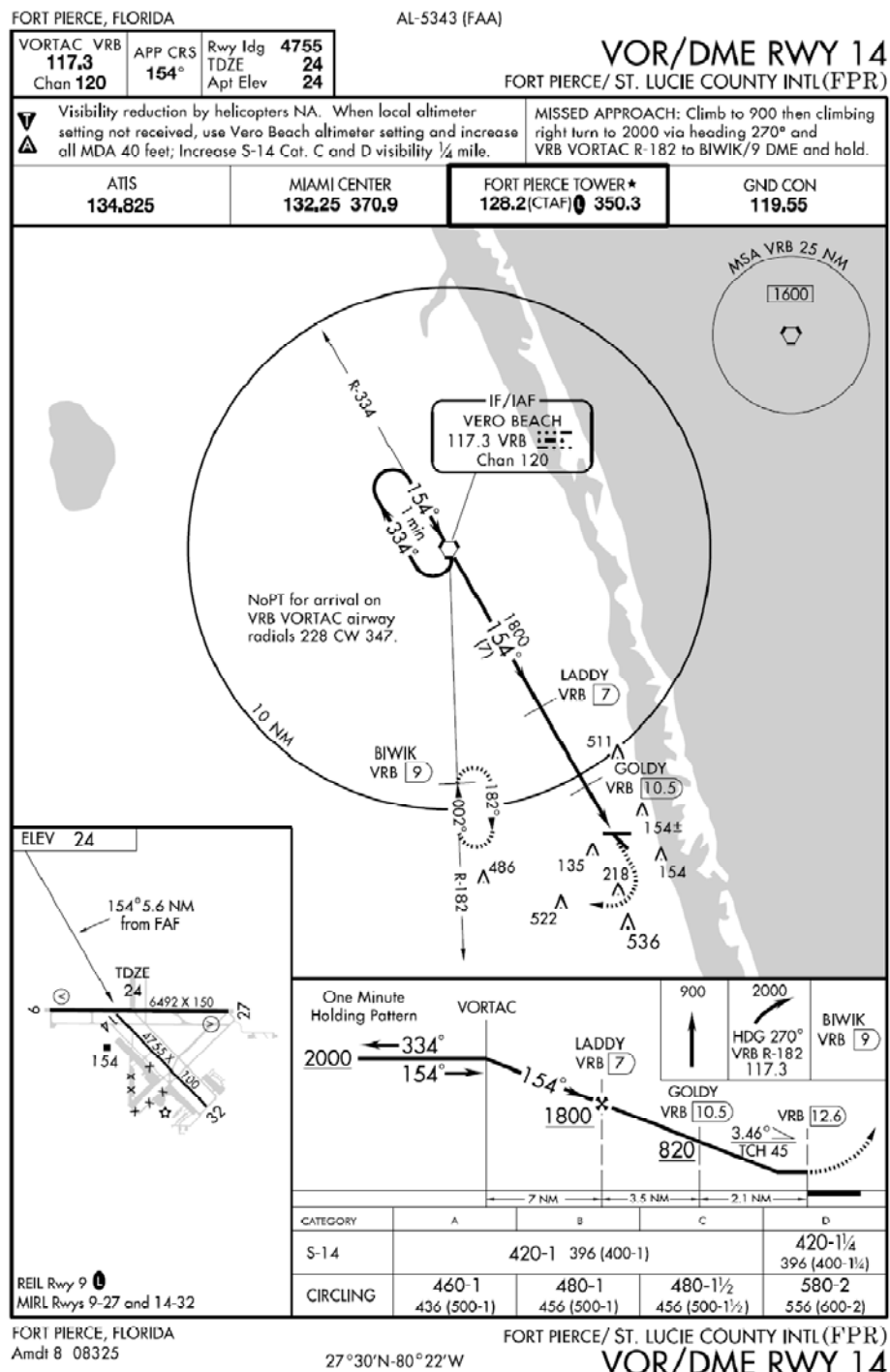
REIL Rwy 9 0  
MIRL Rwy 9-27 and 14-32  
FORT PIERCE, FLORIDA  
Orig 08325

27°30'N-80°22'W

FORT PIERCE/ ST. LUCIE COUNTY INTL(FPR)  
**RNAV (GPS) RWY 14**

Source: U.S. Terminal Procedure Publication (effective 12-15-08 through 1-15-09).

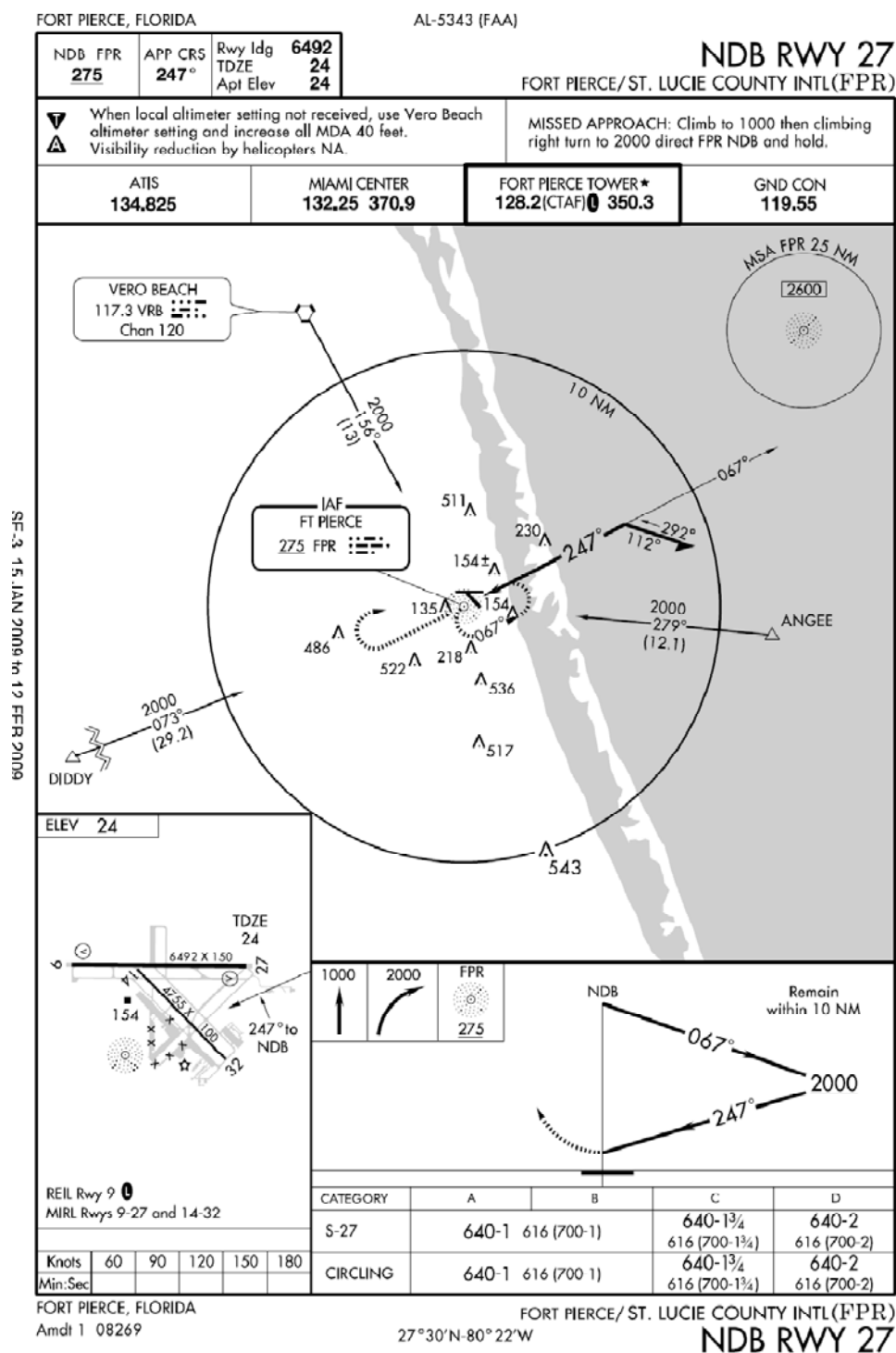
**Figure 2-18**  
**Non-Precision VOR/DME Approach Runway 14**



Source: U.S. Terminal Procedure Publication (effective 12-15-08 through 1-15-09).



**Figure 2-19**  
**Non-Precision NDB Approach Runway 27 (28L)**



Source: U.S. Terminal Procedure Publication (effective 12-15-08 through 1-15-09).



#### 2.4.8 Runway Protection Zones (RPZs)

The function of Runway Protection Zones (RPZs), as defined by **FAA AC 150/5300-13, *Airport Design***, is “to enhance the protection of people and property on the ground”. According to FAA standards, the RPZ begins 200 ft beyond the runway end, and extends out in a trapezoidal shape. The inner and outer widths are dependent upon the aircraft approach category and approach visibility minimums of each runway end. It is highly desirable for the airport to have fee simple ownership of the land within the RPZ and have it cleared of all incompatible objects and activities. Therefore, based on the visibility of the approaches at FPR discussed earlier, as well as the approach category of aircraft utilizing the runways, the existing RPZ dimensions are summarized in **Table 2-7**. Other applicable FAA design criteria, such as the Runway Object Free Area (ROFA) and Runway Safety Area (RSA), are discussed in **Chapter 4, *Demand Capacity/Facility Requirements***.

TABLE 2-7 RUNWAY PROTECTION ZONES DIMENSIONS				
Runway	Existing Dimensional Requirements			
	Approach Visibility Minimums	Length	Inner Width	Outer Width
Runway 10R	¾ Mile	1,700	1,000	1,510
Runway 28L	1 Mile	1,700	500	1,010
Runway 14	1 Mile	1,700	500	1,010
Runway 32	1 Mile	1,700	500	1,010
Runway 10L	Visual	1,000	500	700
Runway 28R	Visual	1,000	500	700
<i>Sources: FAA AC 150-5300-13, Change 14 and The LPA Group Incorporated, 2008.</i>				

## 2.5 Landside Facilities

Landside facilities consist of a combination of aviation and non-aviation related facilities, including fuel storage, aircraft storage facilities, aircraft and airport maintenance, and various tenant facilities. As illustrated in **Figure 2-12, *Existing Facilities***, the majority of landside facilities at FPR are adjacent to the airfield facilities, east of Taxiway C and south of Taxiway D.

### 2.5.1 Aircraft Facilities

Aircraft facilities at FPR are associated with aviation and non-aviation tenant operations as well as based aircraft storage. FPR serves all facets of corporate and general aviation. As of



2008, the airport was home to 211 based aircraft of which approximately 50 percent are stored on paved tie-downs. The remaining based aircraft are stored in a combination of T-hangar, box/condo, corporate and conventional hangar facilities either in hangar facilities associated with one of the two FBOs or in private hangar facilities, which provides approximately 50,000+ SF of total hangar storage.

FPR is home to three flight schools, Tradewind, Ari Ben Aviator, and U.S. Sport Aircraft, and two FBOs, APP Jet Center Aviation and Key Air. Aviation related facilities, including aviation maintenance, flight training, charter operations, fueling, law enforcement, etc. are located adjacent to the airfield. Non-aviation facilities such as Phoenix Metals, Briggs and Stratton Corp, etc are currently located within the industrial portion of the airport property east of Taxiway D and north of Industrial Avenue Three. A listing of existing airport structures and tenants at the time of this writing is provided in **Table 2-8**.

Because of the sheer magnitude of available airport property, its location to major road networks, and US Customs, FPR was and is also home to several non-aviation tenants:

- Fairwinds Golf Course
- SRI
- Gibbons Farm

The St. Lucie County BOCC, operators of FPR, have reserved south and west of the Runway 10R for future aviation/industrial development as well as identified approximately 285 acres on the north side of the airport property for future industrial/commercial development. As part of this Master Plan Update, on-airport land use was evaluated based upon highest and best land use associated with future aviation or non-aviation development and requirements.



**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

<b>Facility Address</b>	<b>Lessee</b>	<b>Landlord</b>	<b>Total S.F.</b>	<b>Use</b>	<b>Aircraft Storage Capacity*</b>
Hangar 2900	St. Lucie County Sheriff Department	St. Lucie County	8,800	Helicopter Hangar/Office	4
Hangar 2916	X-Treme	APP Jet Center Lessee	13,000	Maintenance	N/A
Hangar 2920	William Prescott	APP Jet Center Lessee	3,600	AC Storage	1
Hangar 2924	Ft. Pierce Aircraft Interiors	APP Jet Center Lessee	3,600	AC Refurbishment	N/A
Hangar 2928	Community Hangar	APP Jet Center Operated	3,600	---	N/A
Hangar 2932	Community Hangar	APP Jet Center Operated	3,300	Storage	N/A
T-Hangars 2938	Ft. Pierce Aviation Center/ APP Jet Center Aviation	APP Jet Center Operated	---	Hangar	N/A
Hangar 2946	Community Hangar	APP Jet Center Operated	6,000	Hangar	N/A
Hangar 2950	Community Hangar	APP Jet Center Operated	6,500	Office	N/A
Hangar 2954	Propeller Parts Market	APP Jet Center Lessee	3,600	Maintenance	N/A
Hangar 2960	Aircraft Ground Equipment	APP Jet Center Lessee	4,800	Office	N/A
Hangar 2958	High Speed Composites	APP Jet Center Lessee	3,600	Builder	N/A
Hangar 2962	Wolfenden Enterprises	APP Jet Center Lessee	3,700	Hangar	N/A
Hangar 2970	Aircraft Parts Market	APP Jet Center Lessee	5,350	Pilot Shop	N/A





**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

<b>Facility Address</b>	<b>Lessee</b>	<b>Landlord</b>	<b>Total S.F.</b>	<b>Use</b>	<b>Aircraft Storage Capacity*</b>
Hangar 2974	Nav-Tech	APP Jet Center Lessee	11,000	Maintenance	N/A
Hangar 2978	APP Jet Center Aviation FBO	APP Jet Center Operated	2,800	Office/Hangar	N/A
Hangar 2982	Ft. Pierce Air Center Aviation Tiki Restaurant	APP Jet Center Operated	450	Restaurant	N/A
Hangar 3030	Phoenix Metals	St. Lucie County Land Lease	12,000	Storage	N/A
Hangar 3040	Air & Sea Storage	APP Jet Center Lessee	12,000	Storage	N/A
Hangar 3050	Open Vacant	APP Jet Center Operated	2,250	Service	N/A
3060 Airmans Drive	Aircraft Turbine Works (Office/Hangar)	APP Jet Center Lessee	3,000/12,000	Maintenance	N/A
3100 Airmans Drive	West FBO	APP Jet Center Operated	8,900	FBO	N/A
Hangar 3070	Open Vacant	APP Jet Center Operated	12,000	AC Hangar	N/A
Hangar 3101	Omni	APP Jet Center Lessee	3,600	Air Rescue	N/A
Hangar 3102	EAA Administration Building	St. Lucie County Land Lease	3,600	Office	N/A
Hangar 3104	Treasure Coast Fasteners	St. Lucie County Land Lease	10,200	Storage	N/A
Hangar 3105	Steve Sorrell	APP Jet Center Lessee	5,460	Maintenance	N/A
Hangar 3109	Air and Sea Storage	APP Jet Center Lessee	9,800	AC Storage	N/A



**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

<b>Facility Address</b>	<b>Lessee</b>	<b>Landlord</b>	<b>Total S.F.</b>	<b>Use</b>	<b>Aircraft Storage Capacity*</b>
Hangar 3127	Jet Service Center & Self Service Fuel Station	St. Lucie County Land Lease	3,500	Hangar	N/A
Hangar 3131	Key Air Treasure Coast	St. Lucie County Land Lease		Hangar	N/A
Hangar 3135	Key Air Treasure Coast	St. Lucie County Land Lease	10,000	Office/Hangar	N/A
Hangar 3139	Key Air Treasure Coast	St. Lucie County Land Lease	10,000	Maintenance	N/A
Hangar 3143	Lucas Airways	St. Lucie County Land Lease	3,600	Hangar	N/A
Hangar 3147	Wayne/Marie Snyder	St. Lucie County Land Lease	3,500	Hangar	N/A
3150 Airmans Drive	Freedom Aviation	APP Jet Center Lessee	41,250	Aircraft Manufacturing	N/A
Hangar 3151	Dennis Burke	St. Lucie County Land Lease	3,600	Storage	N/A
Hangar 3155	William Barrows	St. Lucie County Land Lease	3,900	Hangar	N/A
Hangar 3159	Inst. International Investment Corp.	St. Lucie County Land Lease	3,600	Storage	N/A
Hangar 3160	Aircraft Turbine Works	APP Jet Center Lessee	14,000	Office	N/A
Hangar 3161	C Span Holding	St. Lucie County Land Lease		Hangar	N/A
Hangar 3162	Peter Broom	APP Jet Center Lessee	12,000	AC Storage	N/A
Hangar 3163	Kindlund Construction	St. Lucie County Land	3,600	Storage	N/A



**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

Facility Address	Lessee	Landlord	Total S.F.	Use	Aircraft Storage Capacity*
		Lease			
3166 Airmans Drive	Treasure Coast Jet Center (Office/Hangar)	APP Jet Center Lessee	2,000/12,000	Maintenance	N/A
Hangar 3167	Plane People	St. Lucie County Land Lease	3,600	Maintenance	N/A
Hangar 3170	Missionary Flights	APP Jet Center Lessee	41,000	Hangar/Office	5
Hangar 3171	Stanley Oginz	St. Lucie County Land Lease	1,620	Hangar	N/A
Hangar 3175	Hubaire, LLC	St. Lucie County Land Lease	1,620	Hangar	N/A
Hangar 3179	US Sport Aircraft	St. Lucie County Land Lease	1,620	Hangar	N/A
3180 Airmans Drive	Aircraft Specialties	APP Jet Center Lessee	2900/12,000	Office/Hangar	N/A
Hangar 3183	Robert & Jane Thousand	St. Lucie County Land Lease	1,620	Hangar	N/A
3186 Airmans Drive	American Aviation Mgmt	APP Jet Center Lessee	2000/12,000	Air Rescue/Charter	N/A
Hangar 3187	Knight Flight LLC	St. Lucie County Land Lease	1,620	Hangar	N/A
3190 Airmans Drive	American Aviation Mgmt	APP Jet Center Lessee	2000/12,000	Air Rescue/Charter	N/A
3300 Hammond	Federal Aviation Administration ATCT	St. Lucie County Land Lease	500	ATCT	N/A
Hangar 3780	Aircraft Service Center	St. Lucie County Land Lease	12,200	Maintenance	N/A
Hangar 3800	Ari Ben Aviation	St. Lucie County Land	3,800	Flight School	N/A



**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

Facility Address	Lessee	Landlord	Total S.F.	Use	Aircraft Storage Capacity*
		Lease			
Hangar 3804	Key Air Treasure Coast	St. Lucie County Land Lease	9,600	---	N/A
Hangar 3808	Steve Barnett	St. Lucie County Land Lease	3,000	Hangar	N/A
Hangar 3812	Kent (sublet to Ari Ben Aviation)	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3816	Roger Moore	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3820	Bob Rigel	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3824	Key Air Treasure Coast	St. Lucie County Land Lease	9,600	---	N/A
Hangar 3828	Bell Aircraft	St. Lucie County Land Lease	3,600	Maintenance	N/A
Hangar 3832	Jimmy Jones	St. Lucie County Land Lease	3,600	Storage	N/A
Hangar 3836	Knight Investments	St. Lucie County Land Lease	3,600	Hangar	N/A
Hangar 3840	Knight Investments	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3844	Brian Kent	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3848	James Lycett	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3852	Barefoot Medical	St. Lucie County Land Lease	1,462	Hangar	N/A
Hangar 3856	Brian Kent	St. Lucie County Land	1,462	Hangar	N/A





**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

Facility Address	Lessee	Landlord	Total S.F.	Use	Aircraft Storage Capacity*
		Lease			
Hangar 3860	KJS Enterprises LLC	APP Jet Center Lessee	1,462	Hangar	N/A
Hangar 3864	KJS Enterprises LLC	APP Jet Center Lessee	1,462	Hangar	N/A
Hangar 3868	KJS Enterprises LLC	APP Jet Center Lessee	3,000	Hangar	N/A
Hangar 3872	Ari Ben Aviation	St. Lucie County Land Lease	3,600	Maintenance	N/A
4202 to 4208 Pan Am Blvd	Flight School Dormitory	St. Lucie County Land Lease	9,600	Dormitory	N/A
4210-4216 Pan Am Blvd	Flight School Dormitory (former Pan Am International)	St. Lucie County Land Lease	9,000	Dormitory	N/A
Hangar 4220	Hangar	St. Lucie County Land Lease	15,000	Hangar	N/A
Hangar 4230	Hangar	St. Lucie County Land Lease	7,300	Hangar	N/A
Hangar 4801	FPR Maintenance Hangar		10,000	Maintenance	N/A
4500 Tailwind Drive	Air Repair Station	APP Jet Center Lessee	3,600	Maintenance	N/A
Airman's Drive	Mirabella	St. Lucie County Land Lease	14,944	Hangar	N/A
Airman's Drive	KJS Enterprises	APP Jet Center Lessee	12,000	Hangar	N/A
Airman's Drive	APP Jet Center Future Hangar	APP Jet Center	14,000	Hangar	N/A
Airman's Drive	APP Jet Center Future Hangar	APP Jet Center	14,000	Hangar	N/A
2700 Industrial Ave	ASI	St. Lucie County Land	9,300	Industrial	N/A



**TABLE 2-8  
EXISTING AIRPORT TENANTS AND STRUCTURES**

Facility Address	Lessee	Landlord	Total S.F.	Use	Aircraft Storage Capacity*
#3		Lease			
	St. Lucie Fire Department	St. Lucie County	6,900	Fire Department	N/A
3000 Industrial Ave. #3	Phoenix	St. Lucie County Land Lease	5,000	Industrial	N/A
2990 Curtis King Drive	US Customs and Border Protection	St. Lucie County	6,500	Office/ Administration	N/A
3000 Curtis King Drive	St. Lucie County International Airport Administration Building		3,380	Office/ Administration	N/A

*Notes: \*Aircraft Storage Capacity based upon information obtained from Tenants.*

*Sources: 2007/09 St. Lucie County International Airport Stormwater Pollution Prevention Plan Annual Compliance Inspections, The LPA Group Incorporated, St. Lucie County International Airport 2007 Airport Layout Plan, PBS&J, and St. Lucie County International Airport Staff.*

### 2.5.2 Fixed Based Operators

The airport is home to two fixed based operators (FBOs): Key Air of Ft. Pierce and Ft. Pierce Aviation/ APP Jet Center Aviation. APP Jet Center Aviation's facilities are located adjacent to the St. Lucie County International Airport Administration Building and U.S. Customs and Border Facilities west of Runway 32. APP Jet Center Aviation operates the Tiki Restaurant and provides the following services:

- ➔ Jet Storage
- ➔ Fuel (Jet A and 100LL)
- ➔ Restaurant
- ➔ Flight Training
- ➔ On-Site Rentals
- ➔ Courtesy Vehicles
- ➔ Flight Planning Room, and
- ➔ US Customs Handling

APP Jet Center sub-leases 84 acres from St. Lucie County and is the largest long-term leaseholder. There are currently 35 structures on the property, 27 of which are managed and/or subleased by the firm. APP Jet Center provides all the basic corporate FBO services along with: Customs support, international flight planning, and life gear rental. Their base tenants also provide a variety of other services including: maintenance, painting, interior refurbishment, flight training, pilot supplies, aircraft recovery, and charter/ambulance flights.



APP Jet Center also provides design/development services for new structures on its leasehold. There are currently 30+ acres of available developable space. The “Airport Tiki”, a full service bar/diner with a seating capacity of 110, is also located and managed by APP Jet Center.

Key Air of Ft. Pierce facilities are located along the southeast portion of the airfield, north of Taxiway B and east of Taxiway D. Key Air manages four (4) conventional hangars. These hangars are located adjacent to Key Air’s facilities on the southeast side of the airport. Key Air also provides, according to their website, the following services at FPR:

- ➔ Aircraft Hangar Storage
- ➔ Aircraft Fueling
- ➔ Quick Turns
- ➔ U.S. Customs Handling
- ➔ Aircraft Maintenance & Repair
- ➔ Paint & Interior Services
- ➔ Courtesy Vehicles
- ➔ Flight Planning Room
- ➔ On-Site Rentals
- ➔ Catering
- ➔ Wi-Fi Wireless Internet

Both FBOs also have extensive plans related to corporate and other general aviation development including expanded FBO terminal facilities, transient parking and hangar facilities, fueling, maintenance, charter and other amenities.

In addition to corporate aviation demand, flight training is a significant component of FPR's operations. Three flight schools are currently located at the airport, which provide active fixed wing pilot training. As a result, approximately 55 percent of FPR's operations may be attributed to flight training operations. The remaining 45 percent of annual operations are attributed to business related, community or personal use. Of which, approximately 6 percent of transient general aviation aircraft operations may be attributed to jet aircraft.

An analysis of existing and future hangar demand and facility requirements is provided in **Chapter 4, Demand/Capacity and Facility Requirements**, of this report.

## 2.6 Support Facilities

Support facilities assist in keeping the airport operational and safe, including the Air Traffic Control Tower (ATCT), Aircraft Rescue and Firefighting (ARFF) facility, electrical vault, airport maintenance, and other components like the automobile parking areas and FBO fuel



farms. Through discussions with airport management and tenants, an inventory of the existing support facilities at FPR is provided in this section.

### **2.6.1 Air Traffic Control Tower (ATCT)**

Originally constructed in 1985, the Air Traffic Control Tower (ATCT) is located on the west side of the airport, and is staffed by the FAA between the hours 7:00 a.m. and 9:00 p.m. (0700-2100) seven days a week. The ATCT not only oversees aircraft flying within the controlled airspace near FPR, but also the vehicles and aircraft operating on the ground within the defined movement area. Vehicle or aircraft operators must maintain contact with tower personnel in either of these areas, whether on the ground or in the air. ATCT personnel's purpose is to ensure that all movements are coordinated in a safe manner. Pilots that wish to enter or transition through the Class D airspace surrounding FPR must first get clearance from the ATCT. Miami Center Traffic Control Center (ARTCC) provides terminal and enroute air traffic services in the area when the ATCT is closed at FPR.

### **2.6.2 Airport Administration & Maintenance**

As previously mentioned, FPR is owned by the St. Lucie County BOCC, and is managed by the County Airport Department with a staff of eight full-time employees and one part-time employee. The Airport Administration Building is located south of the airfield at the terminus of Curtis King Boulevard. This 3,380 square-foot building was originally constructed in 1962 as the airport's terminal, although it now contains administrative offices, the "History Wall," and conference/planning rooms.

The 10,000 square-foot airport maintenance building is located at 4801 Airfield Drive on the west side of the airport near the ATCT and electrical vault. The County Airport Department is responsible for airport pavements, wildlife, security inspection, minimum operating standards, etc. in addition to maintenance of landside facilities outside tenant areas. This includes such activities as: maintaining airfield lights and signage in proper working order, airport pavement and security inspection and repair, ensuring that vegetation is properly groomed, maintenance of the Airport Administration and U.S. Customs buildings, etc. Airport tenants with building leases are responsible for their buildings as described in their respective leases. Fortunately, since the late 1970s Briggs and Stratton has used FPR as a test site for its lawn mowers and conducts mows approximately 300 acres at no cost to the county.

### **2.6.3 Aircraft Rescue and Firefighting (ARFF)**

Located just south of Runway 28L near the intersection of Industrial 33<sup>rd</sup> Street and Industrial Avenue 3, the 6,900 square-foot ARFF station was completed in 2008 through a grant from FDOT, and has three bays for firefighting trucks and equipment. It provides firefighting





services for both the airport and the local community. Although FPR is not a FAR Part 139 certificated airport (i.e., air carrier airport), the ARFF station on the field provides enhanced safety capability for aircraft operating at the airport. FAR Part 139 sets forth minimum safety standards for emergency response personnel and equipment requirements for commercial service airports. ARFF departments provide emergency response and fire fighting training activities.

The ARFF facility at FPR is operational 24 hours a day and 7 days a week. Two 24-hour shifts with 6 firefighters and 1 captain are available at all times. In addition, the fire chief is also on staff during Monday through Friday of each week. During the development of this report, the ARFF employed 16 full-time employees and 5 part-time employees. The ARFF is also equipped with the following vehicles:

- Engine 4 Pierce Enforcer – obtained 2007
- Rescue 4 American LaFrance – obtained 2006
- Brush 4 F550 – obtained 2000
- ARFF 216 Oshkosh Stryker – obtained 2007
- Battalion 1 Ford Expedition – obtained 2007, and
- FTO 1 Ford F-150 – obtained 2006

#### **2.6.4 Fuel Farms**

Both APP Jet Center Aviation and Key Air provide self-serve 100 Low Lead (LL)/Avgas facilities as well as full-service Jet-A and 100LL/Avgas fueling services. APP Jet Center Aviation has one (1) 20,000-gallon 100LL/Avgas tank, one(1) 20,000-gallon Jet-A tank, and one (1) 1,500 Avgas self serve tank; Key Air has one 12,000-gallon 100LL/Avgas tank and two Jet-A tanks with a total capacity of 24,000 gallons. Each FBO also has trucks to provide aircraft curbside fueling. Ari Ben Aviation also has fuel facilities specifically used for their flight training operations. Further discussion of existing fuel facilities and demand is provided in **Chapter 4, Demand Capacity/Facility Requirements**.

Fuel flowage data is provided from both Fixed Based Operators (Key Air and APP Jet Center Aviation) and Ari Ben Flight School. Total fuel flowage data obtained from airport records associated with both 100LL (Avgas) and Jet A for calendar years 2007 and 2008 are provided in **Table 2-9**.



**TABLE 2-9  
FUEL FLOWAGE**

Month	2008	2007
January	144,295	154,648
February	161,225	171,014
March	182,911	211,051
April	142,733	186,609
May	121,053	146,037
June	130,426	138,713
July	97,480	119,789
August	113,121	122,040
September	65,172	89,003
October	96,712	122,234
November	104,646	121,302
December	111,735	136,099
<b>Total</b>	<b>1,471,509</b>	<b>1,718,539</b>

*Sources: Ari Ben Flight School, Key Air and APP Jet Center Aviation fuel flowage records, St. Lucie County International Airport Records, 2009.*

### **2.6.5 United States Customs and Border Protection**

St. Lucie County International Airport was approved by the United States Bureau of Customs to become a Landing Rights Airport in 1974, and currently has an on-site Customs and Border Protection (CBP) office located adjacent to the Airport Administration Building. The CBP office is open between the hours 10:00 a.m. and 6:00 p.m. seven days a week, and is a common port-of-entry for passengers arriving from the Bahamas. In the coming years, it is anticipated that a larger CBP office will be constructed elsewhere on the airport property to replace the aging facility.

### **2.6.6 Electrical Vault and Utilities**

The electrical vault houses the necessary transformers, controllers, and generators for airfield lighting, signage, and NAVAIDS. At FPR, the electrical vault is located near the ATCT and maintenance building on the west side of the airport. A project was recently conducted at the beginning of 2009 to upgrade the electrical vault so that it could effectively serve the airfield.

Further, it is important to document the locations and providers of utility services at the airport, as the proposed development and facility upgrades recommended in this study will be dependent upon the ability of the airport to provide necessary utilities to service the area, such as electric, sewer, and water. Providers of utilities to FPR are listed in **Table 2-10**.



**TABLE 2-10  
FPR UTILITY PROVIDERS**

Service	Provider
Electricity	Fort Pierce Utilities Authority (FPUA) and Florida Power and Light (FP&L)
Fire Protection	St. Lucie County Fire Department Fire Station 4
Police Protection	St. Lucie County Sheriff
Sanitary Sewer	St. Lucie County Utilities Department
Telephone	AT&T
Trash Removal	All Haul
Water	St. Lucie County Utilities
Source: St. Lucie County online and <a href="http://www.eflorida.com/profiles/County">http://www.eflorida.com/profiles/County</a> report.	

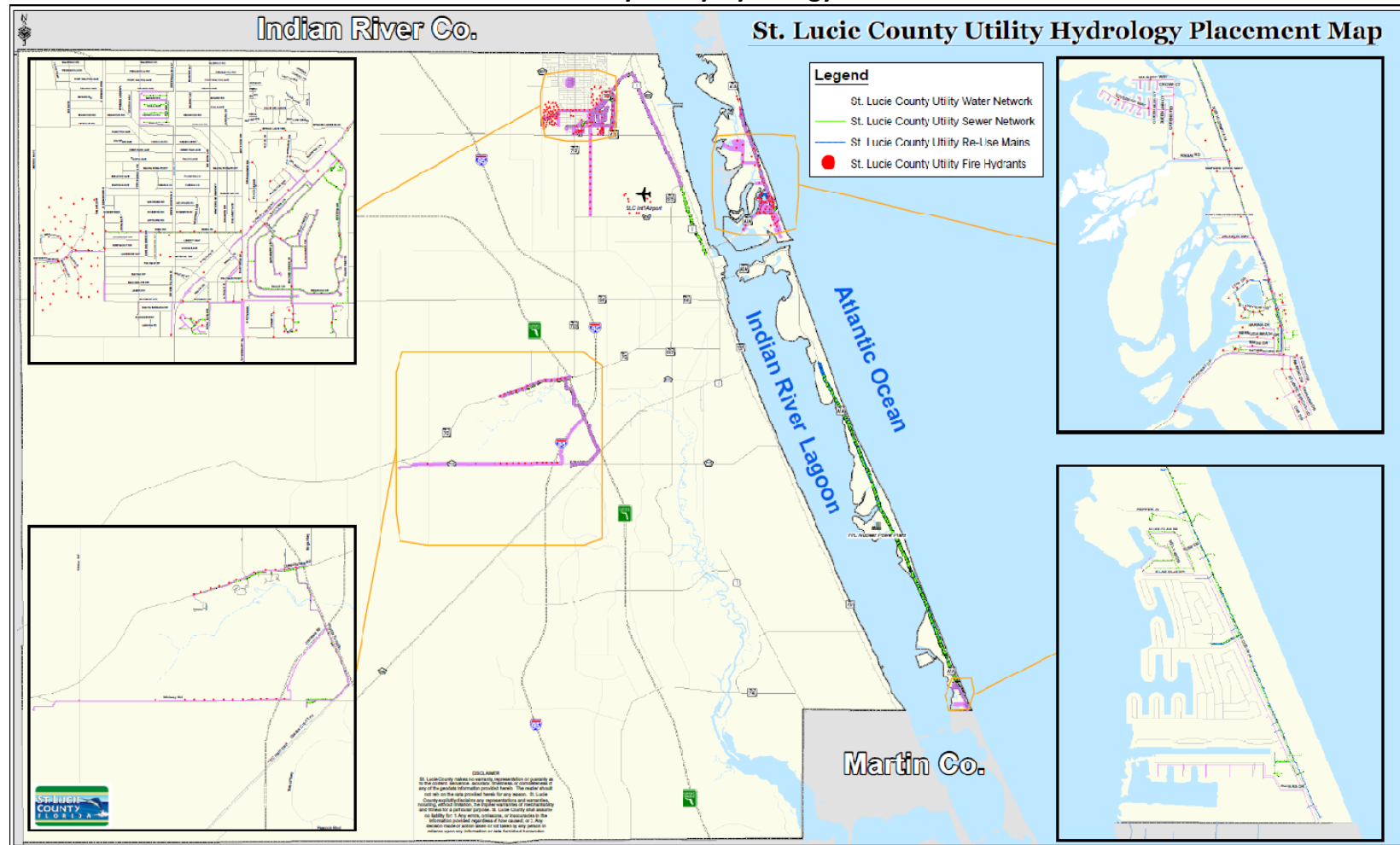
Readily available drawings and information obtained from the St. Lucie County Utilities and Growth Management departments were used to determine the location of the current utilities on or near the airport property. **Figures 2-20 and 2-21** illustrate the various utility locations in the vicinity of the FPR. A review of this graphic demonstrates that all required services including electrical, drainage, sanitary sewer, and water lines are presently located in the area. This plan also shows that many areas adjacent to the airport property are currently supplied with the utility services necessary to support future development. This information will be used as a consideration in subsequent chapters while planning the development of future facilities.

## 2.6.7 Security

In 2004, the State of Florida commissioned the Florida Airports Council (FAC) to prepare a model security plan for the state's general aviation airports. This model plan was distributed to each general aviation airport in the state. The following year, the state enacted laws to require each general aviation airport with at least one runway longer than 4,999 feet in length to have a written security plan – using the FAC model as a guideline.

As a result of FDOT's GA security requirements, FPR obtained grant funding to install access control systems and an eight foot perimeter fence as well as implement employee and contractor badging procedures at the airport. The airport perimeter fence encompasses the airfield and all aircraft movement areas, some access gates are equipped with keypads and card readers with remainder controlled through lock and key. Existing gates provide adequate vehicular and pedestrian access. As part of the access control system upgrade, lighting protection equipment was added in 2007/8 to protect both security equipment and navigational aids from electrical surges and damage. In addition, the St. Lucie County Sheriff's Department has a hangar and office facilities located at the airport.

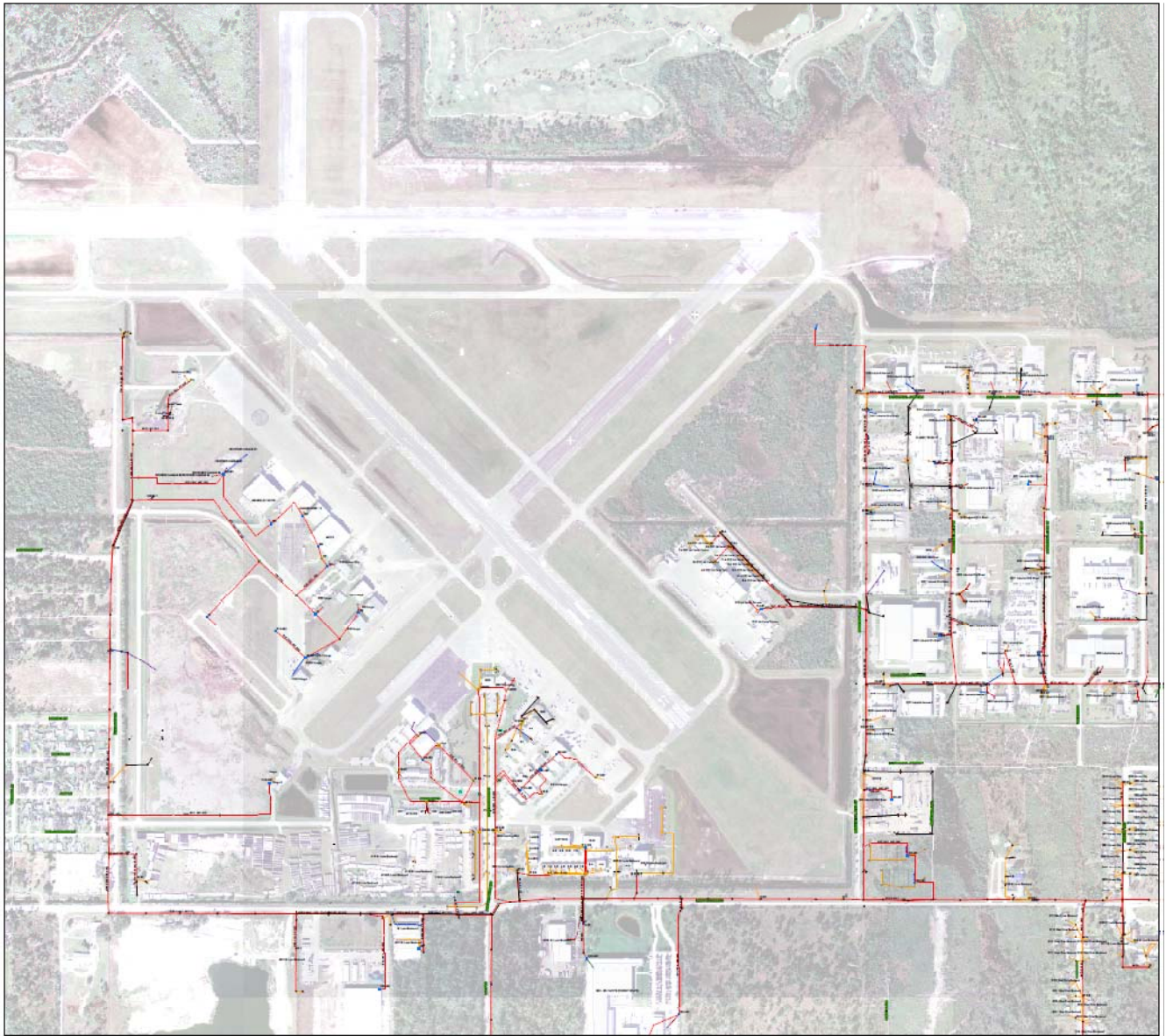
**Figure 2-20**  
**St. Lucie County Utility Hydrology Placement**



Source: St. Lucie County Utilities Online, 2009



**Figure 2-21**  
**St. Lucie County Airport Utilities**





## 2.7 Existing Natural Features Inventory

In order to inventory the potential natural features and environmental constraints to future development at FPR, a review of available background information, protected species literature, aerial photography, and other mapping data was conducted. A list of these reference materials and mapping for some of the typical environmental constraint categories developed from these data sources are provided in **Appendix C, *Supporting Environmental Documentation***. Due to the limited nature of this inventory and since minimal property acquisition is proposed in this AMPU study, some environmental constraint categories were not examined in great detail. Those categories include hazardous material storage areas and contaminated areas.

A detailed outline of regulatory requirements for potential environmental impact categories is presented in the **Chapter 5, *Alternatives Analysis***. Based on the review of available environmental documentation, the environmental constraint categories that have the greatest potential to affect future development projects at the airport include the following:

- ➔ Archaeological resources;
- ➔ Biotic communities
- ➔ Federal and state protected species;
- ➔ Federal jurisdictional wetlands and other Waters of the U.S.;
- ➔ State jurisdictional wetlands and surface waters; and,
- ➔ Floodplains.

No impacts would be anticipated for the following environmental categories:

- ➔ Air quality;
- ➔ Historic resources;
- ➔ Prime farmland;
- ➔ Department of Transportation Section 4(f) Properties; and,
- ➔ Hazardous materials.

### 2.7.1 Cultural

Portions of the airport property located east, north (aside from the county-owned Fairwinds Golf Course), and west areas of the developed portion of the airport are predominantly undeveloped or are areas of pasture land or citrus groves (**Appendix C, Figure C-2**). The undeveloped portions of the property, particularly undeveloped uplands, may contain archaeological resources. For projects that would impact areas that have not been previously disturbed or developed, coordination with the Florida Division of Historical Resources and the State Historical Preservation Office (SHPO) would be required, and a Phase I Cultural



Resources Assessment Survey may be required. However, during the previous Environmental Assessment this was addressed, so it is anticipated that coordination with SHPO will not be required.

## 2.7.2 Terrestrial Concerns

### Biotic Communities

For projects that will cause the removal of native tree species, the St. Lucie County Environmental Resources Department (ERD) is the agency that enforces St. Lucie County's tree protection regulations. For such projects mitigation for tree removal impacts are typically required. These tree impacts are evaluated as part of the county's land development review process. Impacts to biotic communities are also reviewed in some cases due to involvement with federal and/or state protected species as described in 1.2.2 below or, in the case of wetland biotic communities, as part of the State Environmental Resource Permit Program, as described in the section 1.3.

### Protected Species

The United States Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FFWCC) have authority under the U.S. Endangered Species Act of 1973 (ESA) and the Florida State Endangered and Threatened Species Act (Florida Statute 379.2291), respectively, to provide comments and recommendations concerning protected plant and wildlife species. The ESA requires federal agencies, in consultation with and assisted by the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitats of such species. Section 7 of the Act implies that if actions will affect protected species or critical habitats then consultation with the USFWS is necessary. The FFWCC also requires consultation for any impacts that may affect state listed threatened and endangered species.

Based on a review of the Florida Natural Areas Inventory (FNAI) tracking list for St. Lucie County and the USFWS list of protected species for St. Lucie County, there are 43 federal and/or state listed plant or animal species documented to occur within the county. Taking into consideration the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) land cover types (**Appendix C, Figure C-2**) that are mapped in the vicinity of the FPR, field observations of habitats on the airport's property, and the habitat requirements of each species, the following five federally protected species have some potential for utilizing habitats on or adjacent to Airport property:

- |                         |                                  |
|-------------------------|----------------------------------|
| 1. Eastern indigo snake | <i>Drymarchon corais couperi</i> |
| 2. Florida scrub jay    | <i>Aphelocoma coerulescens</i>   |





- |                            |                              |
|----------------------------|------------------------------|
| 3. Wood stork              | <i>Mycteria americana</i>    |
| 4. Red-cockaded woodpecker | <i>Picoides borealis</i>     |
| 5. Lakela's mint           | <i>Dicerandra immaculata</i> |

In addition, it was determined that of the state protected species listed on the FNAI tracking list for St. Lucie County, the following eight species could potentially utilize habitats on or adjacent to airport property:

- |                                  |                                  |
|----------------------------------|----------------------------------|
| 1. Gopher tortoise               | <i>Gopherus polyphemus</i>       |
| 2. Peregrine falcon              | <i>Falco peregrinus</i>          |
| 3. Southeastern American kestrel | <i>Falco sparverius paulus</i>   |
| 4. Florida sandhill crane        | <i>Grus canadensis pratensis</i> |
| 5. Large flowered mint           | <i>Conradina grandiflora</i>     |
| 6. Blunt-leaved peperomia        | <i>Peperomia obtusifolia</i>     |
| 7. Giant orchid                  | <i>Pteroglossaspis ecristata</i> |
| 8. Scrub Bluestem                | <i>Schizachyrium niveum</i>      |

Gopher tortoises and Florida scrub jays are known to occur on parts of the airport property, and the presence of gopher tortoises on the airport property increases the potential for the eastern indigo snake to be present, because they typically use gopher tortoise burrows for shelter and nesting. One additional species that is no longer federally or state listed as threatened or endangered, the bald eagle (*Haliaeetus leucocephalus*), is documented to occur at the extreme northern end of the airport property (**Appendix C, Figure C-3**). Potential impacts to this documented bald eagle nest would require coordination and permitting from FFWCC.

For construction of new facilities in areas that protected species may inhabit, a protected species survey using the FFWCC “Wildlife Methodology Guidelines” (1988) or other species specific survey methodology as required by the USFWS and/or FFWCC would need to be conducted to determine their presence or absence. After the protected species survey, if protected species are present, then coordination with the USFWS and/or the FFWCC would be required. If protected species impacts are proposed, additional coordination, permitting, mitigation, and USFWS consultation (as specified in Section 7 of the ESA) may be required. Additional protected species information is presented in **Appendix C**.

### 2.7.3 Aquatic Concerns

#### Water Quality

The United States Army Corps of Engineers (USACOE), the Florida Department of Environmental Protection (FDEP), and the State of Florida’s Water Management Districts





have jurisdiction over and regulate activities that impact wetlands, surface waters, and/or stormwater management systems through the Environmental Resource Permit (ERP) Program in Florida. In St. Lucie County, the South Florida Water Management District (SFWMD) is the permitting authority that administers the ERP program.

National Pollutant Discharge Elimination System (NPDES) regulations also serve to protect water quality. In the State of Florida, the NPDES permit program is administered by the FDEP. An NPDES Generic Permit for construction is required for projects that disturb greater than 0.5 acre. Therefore, proposed construction projects at FPR that exceed this threshold would require an NPDES permit.

### Wetlands

The Natural Resources Conservation Service (NRCS) soils data layer for St. Lucie County (1980) (**Appendix C, Figure C-1**) and the SFWMD FLUCFCS data layer (2004) (**Appendix C, Figure C-2**) were used to make a preliminary assessment of the possible jurisdictional wetlands and surface waters located within airport property. **Figure 2-21** depicts the areas mapped as wetlands and surface waters according to the FLUCFCS, as well as, wetlands identified during previous wetland delineations and additional potential wetlands that were identified based on aerial photography and limited field reconnaissance within the airport property. For the purposes of this inventory, the wetlands that were identified based upon aerial photography should be field verified.

As depicted in **Figure 2-21**, the airport property contains numerous areas of potential wetlands and surface waters (such as canals and some ponds and ditches). These areas are scattered throughout the airport property, but are most abundant northeast, north, and northwest of Runway 10R-28L. The area west of the airport has comparatively fewer wetlands. A field wetland delineation should be conducted and followed by coordination with the SFWMD and/or the USACOE for new development projects that have the potential to impact wetland and surface water areas in order to determine whether permitting will be necessary. In some cases wetland mitigation may be required; this would be determined on a case by case basis.

### Floodplains

The Federal Emergency Management Agency (FEMA) produces Flood Insurance Rate Maps (FIRMs) for communities participating in the National Flood Insurance Program. The FIRM data indicates the 100-year and 500-year flood boundaries and sometimes also provides flood elevations. The State of Florida administers and requires compensation for impacts to 100-year floodplains through the ERP process. Projects proposing impacts to 100 year floodplains are also reviewed by FEMA for consistency with federal floodplain development regulations.



Based on a review of the 2004 FEMA digital Q3 floodplain data layer for St. Lucie County, the northern and eastern portions of the airport property are within the 100-year floodplain. The remainder of the airport is not within the 100-year floodplain (**Figure 2-22**).

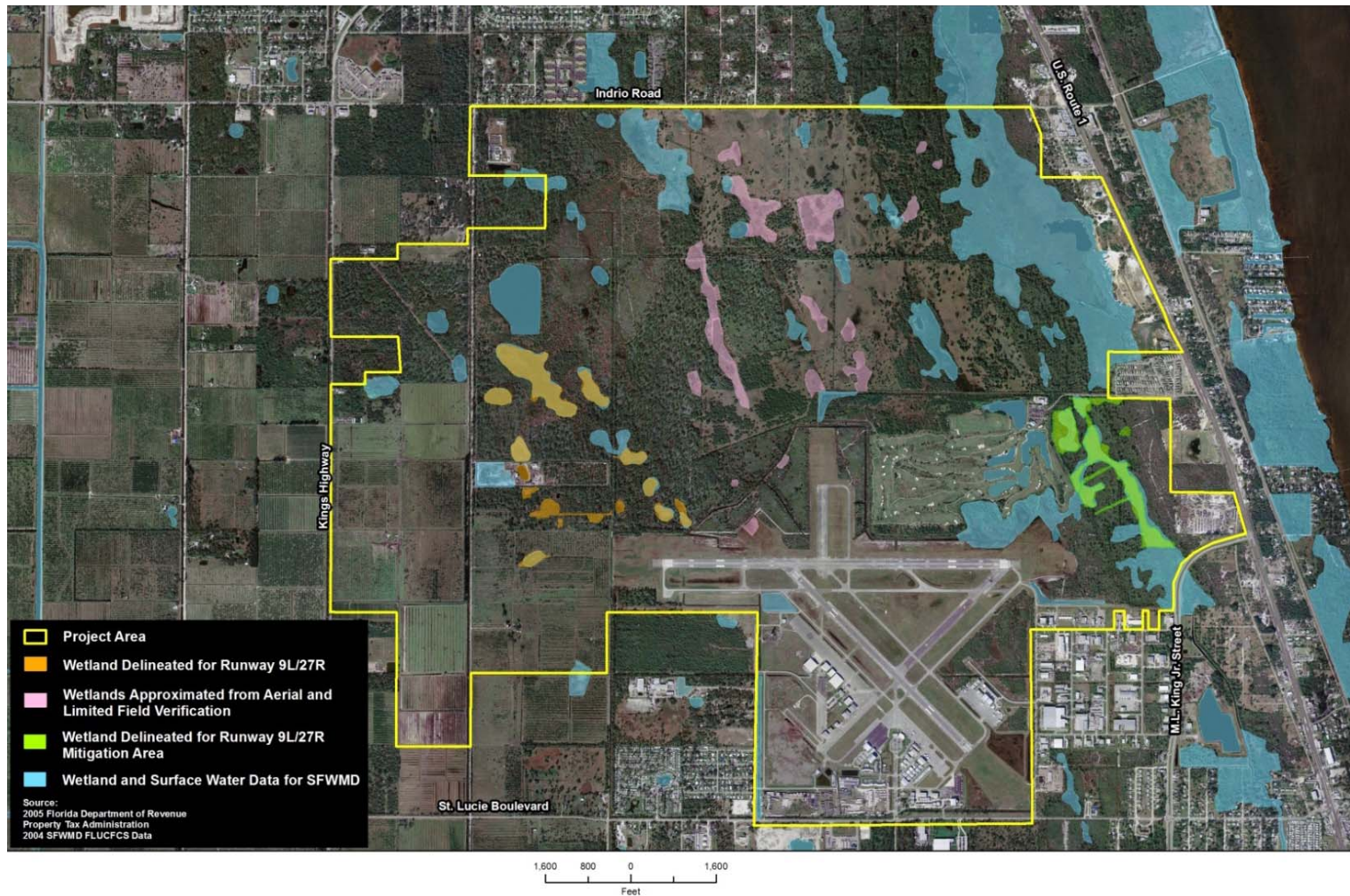
## 2.8 Summary

The information provided within the section of the report was used as the foundation for the remaining elements of the master plan update. Information on current infrastructure and operations served as a basis for the development of aviation activity forecasts, demand and capacity analysis, as well as facility requirements.

Existing data provided guidance for the assessment of potential changes to facilities and/or procedures necessary to meet the goals of the airport planning process. The analyses of airport facilities were based upon existing and anticipated user demands over the short-intermediate and long-term planning periods. The inventory of existing conditions is the first step in the complex process needed to meet the Communities' projected aviation demand. The information collected was based upon the year 2008 operational data, which served as the baseline/foundation for forecast airport activity and facilities.

In its current role, the airport serves as a busy center of general aviation (GA) aircraft activity, and experienced approximately 160,000 operations in 2008. Airport management (sponsor is the St. Lucie County BOCC) has undertaken several initiatives to grow FPR into an economic generator for the region, through a combination of aviation and non-aviation related developments (industrial park – site planning, infrastructure, etc.), and has also successfully implemented programs to promote compatibility with surrounding residential areas and sensitive environmental land uses, while maintaining the safe operation of the airport.

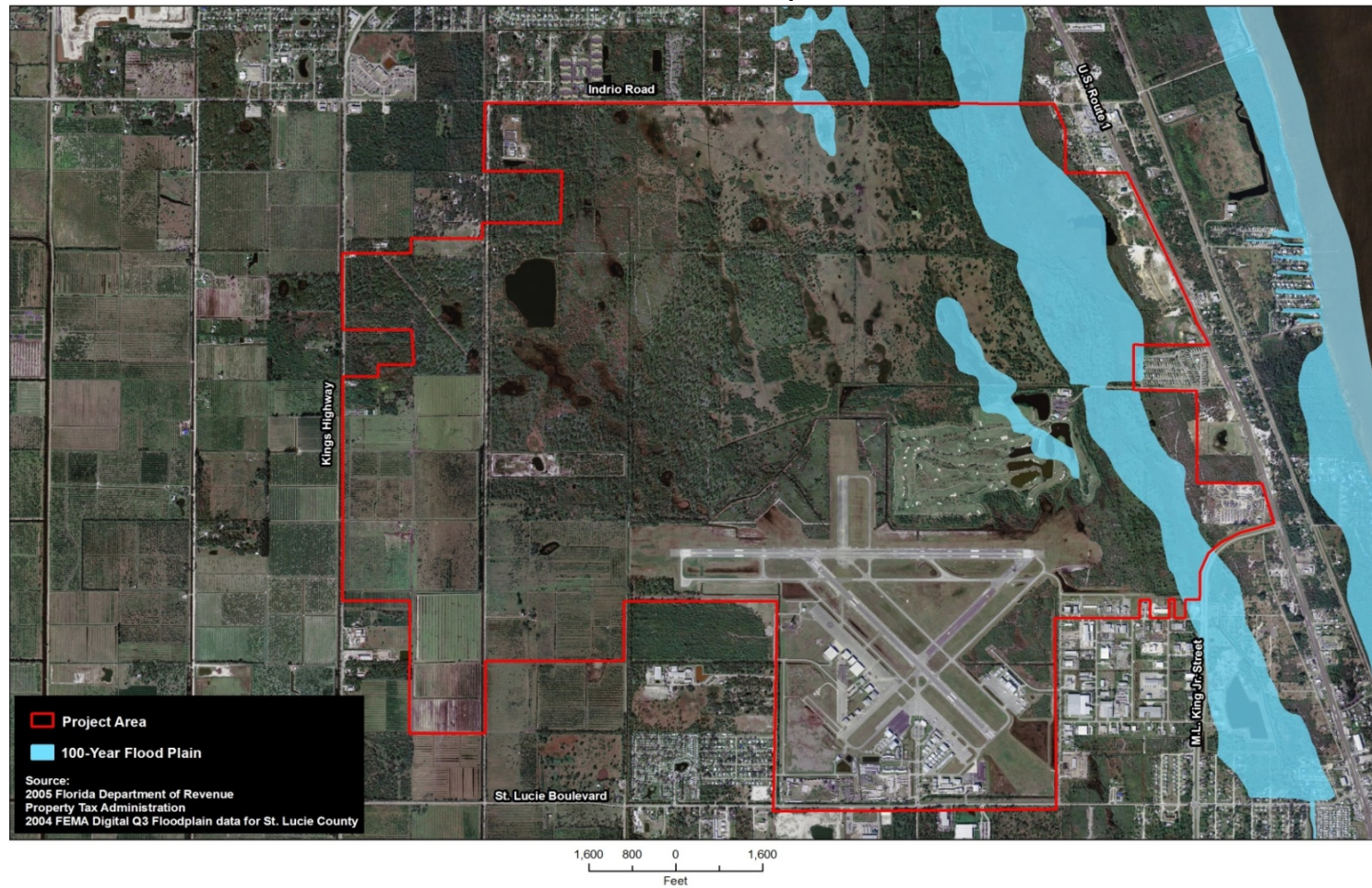
**Figure 2-22  
Potential Wetlands**



Source: The LPA Group Incorporated 2009



**Figure 2-23**  
**FEMA 100-Year Floodplains**



Source: The LPA Group Incorporated 2009